



2005 ANNUAL REPORT



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Global water consumption rose sixfold  
between 1900 and 1995, more than  
double the rate of population growth > > > >

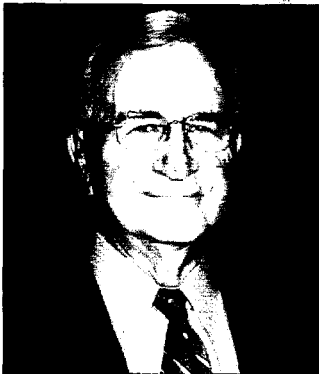
## OUR TECHNOLOGY HELPS KEEP WATER SAFE.

At AAR, with BioSentry, is working hard to provide a solid solution for the ever-increasing, global need for clean and safe water.

But we do more than monitor water, our state-of-the-art laser and x-ray technologies are also finding multiple applications from Microscopes to X-ray Lithography to Nano Probes.

## A Message From C. Neil Beer

*President and Chief Executive Officer*



As a member of the Board of Directors, I am delighted to now join the JMAR management team as this Annual Report goes to press. Following the decision several years ago by the semiconductor industry to forego the expected transition to x-ray lithography, JMAR faced a major challenge in transforming itself while retaining our core competencies in laser and x-ray processes.

Talented employees, supported by steadfast shareholders, successfully accomplished this transformation. The Company redirected its x-ray technology to the development of innovative tools for nanotechnology applications and identified opportunities within the biomedical and homeland security markets. Today we are developing product lines for early warning water contamination detection, optical and x-ray microscopy, an x-ray lithography application for the military, and we are supporting the engineering design and manufacture of high profile hazardous material sensor devices.

A major part of my responsibility is to ensure that the Company completes these development efforts as quickly as possible. We cannot afford delay in our efforts to gain traction in the marketplace. As JMAR's new Chief Executive, I am committed to matching technological innovation with profitable business operations that create shareholder value. **My near term goals include:** > > > > > > > > > > > > >

> > > > **Establish corporate product development priorities to return JMAR to profitability**

The recent decline in our stock price did not go unnoticed. We will do what it takes to boost the stock price.

The Board of Directors is doing its part by capitalizing on the proven business accomplishments and corporate governance strengths of Charles Dickinson, by recently electing him Chairman of the Board, and by creating a new function, directly focused on technology review and intellectual property assessment, staffed by two highly qualified board members, Barry Ressler and Dr. Paul Gilman.

Management is doing its part, first by assigning top priority to the BioSentry system because we believe it has the best potential for attracting investor interest, and for improving stock price performance. Second, we are emphasizing company-wide teamwork and teambuilding, crafting an aggressive business strategy, producing mission statements tailored for all employees, and publishing program-specific success criteria.

**Build and preserve key resources**

Despite the very competitive business environment, we will grow our revenues through increased commercial sales and government R&D contracts. We will control expenses to conserve cash and improve the bottom line. We will improve our access to capital to enable the timely exploitation of our growing technology base.

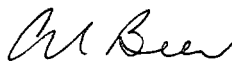
**Streamline the organizational structure to improve business process**

In past years, JMAR acquired several complementary businesses and has now assembled a balanced team of outstanding, dedicated employees. In support of our decision to establish product development priorities, we will reevaluate the organizational structure to ensure that each team member can make his or her most valuable contributions. Teamwork and accountability will be strengthened to deliver on all commitments to our customers, our shareholders, strategic partners and fellow employees.

We must also enhance internal processes to increase our competitive edge. Our simultaneous pursuit of product development, commercial sales, and government R&D covers a wide array and will test the limits of the capabilities of all JMAR business functions. For example, one very important part of our execution will involve the formation of business alliances with key industry partners, to speed our entry into high-growth markets for our products and technologies such as BioSentry.

I am confident these initiatives will result in positive changes. I have enormous respect and affection for this Company and am fully committed to its success. As a shareholder, I trust you share my enthusiasm regarding JMAR's prospects for the future.

Sincerely,



**C. Neil Beer, PhD**

President and Chief Executive Officer

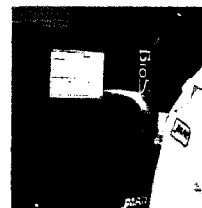
# BioSentry™

The BioSentry offers state-of-the-art, laser-based technology to provide continuous, on-line, real-time monitoring for microorganisms in water systems.

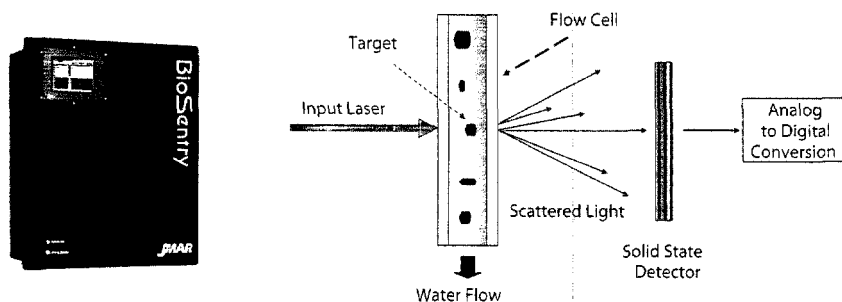
## WHAT IT IS

More than a monitoring device, the BioSentry provides both detection and classification of waterborne microorganisms, without the need for consumables or reagents. It utilizes laser-produced, multi-angle light scattering (MALS) technology to generate a unique bio-optical signature for classification using JMAR's microorganism detection library.

The BioSentry can immediately detect the presence of microorganisms, then classifies them within minutes, helping to ensure the continuing safety and quality of your water supply.



## HOW IT WORKS



## WHY IT WORKS

The technology within the BioSentry is Multi-angle Light Scattering (MALS). The figures above show the production unit and how the MALS technology is used in the BioSentry System. A laser beam is directed through a water flow cell. As a particle comes in contact with the laser beam, a light scattering pattern is generated that is unique to the particle. This light pattern or 'fingerprint' is compared to patterns within the System's onboard computer data base. A 'match' signifies the presence of the contaminant. The images below illustrate the fingerprints of the particles indicated.



Cryptosporidium



E. coli



Inorganic 'dirt'

## WHERE IT WORKS

The BioSentry system can be installed in any application where water contamination can cause harm or defects. JMAR is currently focused on the applications indicated below that collectively present an addressable market exceeding \$100M. JMAR will continue to evolve the BioSentry to expand both the market and the value to its customers.

HOMELAND SECURITY	PROCESS WATER QUALITY	DRINKING WATER QUALITY
<ul style="list-style-type: none"> <li>• Municipal Drinking Water</li> <li>• High Profile Facilities</li> <li>• Military Facilities</li> <li>• Cruise Ships</li> <li>• Public Events</li> </ul>	<ul style="list-style-type: none"> <li>• Beverage</li> <li>• Pharmaceutical</li> <li>• Semi-conductor</li> <li>• Industrial</li> </ul>	<ul style="list-style-type: none"> <li>• Utility: treated water</li> <li>• Utility: distributed water</li> <li>• Bottled Water</li> <li>• Cruise Ships</li> </ul>

## PRODUCT PIPELINE



### BRITELIGHT: HIGH-PERFORMANCE, HIGH-POWER LASER SYSTEM

The BriteLight series of solid-state lasers offer an unmatched combination of high brightness and high average power in a reliable and highly modular design. It has found applications in bio-analysis, large non-linear optical crystal conditioning, and for soft X-Ray generation through laser-produced plasma. The U.S. Army is currently

supporting research at JMAR aimed at utilizing BriteLight technology for real-time spectrochemical hazard analysis. Using laser-induced breakdown spectroscopy (LIBS), this laser development will allow remote monitoring of hazardous materials such as improvised explosive devices (IEDs).

### COMPACT X-RAY MICROSCOPE

JMAR is in the final phase of testing a full scale prototype of a novel new instrument, a compact, table-top soft x-ray microscope. Once the design has been finalized, JMAR plans to manufacture the first compact X-Ray Microscope suitable for 3D imaging to 50 nm resolution in the scientist's own laboratory. Since this microscope uses x-rays it can be used even on thick, and hydrated, samples

(>10 microns) such as whole cells and polymer structures. We have adapted our CPL X-ray generator to produce X-rays in the "water window", thereby providing an alternative to synchrotron radiation. We see this innovation as the catalyst for rapid growth in X-ray microscopy in the bioscience and chemical industries by enabling convenient, immediate access to this powerful research tool.

### NANO PROBE

The X-Ray Nano Probe, actually a family of nano-technology tools, is enabled by JMAR's ability to create and focus soft X-rays down to a spot size measured in 10s of nanometers. This intensely focused X-ray beam creates a nano-plasma in materials of interest that can

be used to analyze the chemical structure of materials, or to fabricate materials, all at the nano-scale. This tool, capable of 20 nm resolution, may prove critical to in-lab research, process development, and quality control for nano-materials.

The following is an excerpt from the Company's 2005 Form 10-K Annual Report filed by the Company with the Securities and Exchange Commission on April 11, 2006. It excludes the cover pages (page 1), certain parts of the business section (pages 5 to 11), properties (page 17), quantitative and qualitative disclosures about market risk (page 31), controls and procedures (page 32), Part III (pages 32 and 33) and Part IV (page 34).

The Company's entire Form 10-K Annual Report (including the above pages) is available to shareholders at no charge and copies of any of the exhibits of the Form 10-K may be obtained at a charge of \$2.00 per exhibit to cover handling and mailing charges. Written requests should be sent to Investor Relations at the Company's Corporate office located at 10905 Technology Place, San Diego, CA 92127.

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JMAR Technologies, Inc. (JMAR or Company) is a leading innovator in the development of laser-based equipment for imaging, analysis and fabrication at the nano-scale. The Company is leveraging more than a decade of laser and photonics research to develop a diverse portfolio of products with commercial applications in rapidly growing industries, while continuing to carry out research and development for the U.S. Government. JMAR is targeting the nanotechnology, bioscience and semiconductor industries with its BriteLight™ Laser; X-ray Light Source; Compact X-ray Microscope — for 3D visualization of single cells and polymers; and its X-ray Nano Probe — enabling interaction, analysis and materials modification at the nano-scale. JMAR also develops, manufactures and markets its BioSentry™ microorganism early warning system and maintains a strategic alliance with FemtoTrace, Inc. for the production of the READ chemical sensor for the homeland security, environmental and utility infrastructure industries.

During 2005, JMAR complemented its progress in product development and market validation with preparation for manufacturing and distribution and product introduction.

JMAR was incorporated in the state of Delaware in 1987.

## **Business Segments**

JMAR conducts its operations in the following three business segments:

### Research Division/Vermont Operations

Research Division – Located in San Diego, California, the Research Division carries out contract research and development involving JMAR's patented high brightness, short-pulse, diode pumped solid state lasers (BriteLight™) and laser-produced plasma (LPP) technology. A major portion of the Research Division's R&D has been funded by contracts from the U.S. Defense Advanced Research Projects Agency (DARPA) of the U.S. Department of Defense. The Research Division's historic focus on X-ray lithography light source R&D and equipment development was expanded in 2004 when it embarked on an effort to identify additional uses for its laser and LPP technologies. As a result of this business expansion investigation, the Research Division is developing several soft X-ray enabled products including a Compact X-ray Microscope and a family of instruments for nanotechnology applications. JMAR believes that this instrument family will provide the ability to carry out chemical analysis, chemical vapor deposition and erosions at resolutions down to 20 nanometers.

New products are developed at the Research Division based on contract and internally funded R&D and then transitioned to JMAR's Vermont Operations for product engineering and production.

Vermont Operations – Located in South Burlington, Vermont, the Vermont Operations carries out contract research and development involving nanolithography and serves as JMAR's manufacturing arm, carrying out the manufacturing engineering, production, integration and test of JMAR's new products. The Vermont Operations also applies its program management, engineering and manufacturing expertise to the contract development and production of new products using the customer's technology. As an example, the Vermont Operations is the design and manufacturing contractor for FemtoTrace, Inc. building its READ trace chemical sensors for real time detection of extremely small quantities of organics. The READ equipment has uses in environmental contamination detection and homeland security. The Vermont Operations also performs funded contract research and development for DARPA and NAVAIR. During 2005, the Research Division/Vermont Operations segment accounted for approximately 63% of the Company's revenues.

### Microelectronics Division

This segment provides process integration and maintenance support for the U.S. Government's Defense Microelectronics Activity's (DMEA) semiconductor fabrication facility in McClellan, California. During 2005, this segment accounted for approximately 37% of the Company's revenues.

## Sensor Products Group

This segment's first product is the BioSentry™ sensor, a laser-based contamination warning system that provides continuous, automated monitoring of drinking water. This unique system is designed to monitor, detect and classify waterborne microorganisms in real time, helping to ensure water purity to protect public health and/or improve process yields. Prospective applications include beverage bottling quality assurance, water utility operations, cruise ship water monitoring, and homeland security for building water supply and water distribution systems. During 2005, this segment accounted for less than 1% of the Company's revenues. First product shipments of the BioSentry sensor, subject to installation and customer acceptance, occurred in the first quarter of 2006.

## **Products and Services**

JMAR's products and services evolve from one or more of its five core competencies: high brightness solid state lasers, laser produced plasma generators for soft X-ray light, automated precision positioning and alignment systems, microelectronic fabrication operations, and multi-angle light scattering for particle classification. These competencies form the basis for JMAR's contract research and development, standard and custom products, and support services revenues.

### ***BriteLight™ Lasers***

JMAR's diode pumped solid state (DPSS) BriteLight laser, developed specifically to enable the efficient production of soft X-rays, using laser produced plasma, is now marketed by JMAR as a standard product for advanced laser applications. Commercial BriteLight units are presently operating in Korea and at the Lawrence Livermore National Laboratory. JMAR is carrying out manufacturing engineering to reduce production costs and to expand the addressable market for this high performance laser.

The patented DPSS BriteLight™ Laser System offers a unique combination of high brightness, short pulse duration, and exceptional beam quality in a modular, compact design. This product offers research scientists and manufacturing engineers a versatile laser source that can be used for a multitude of applications, including spectro-chemical analysis, nanotech scale fabrication, X-ray microscopy and X-ray source generation.

The BriteLight™ System is a high-performance laser source for researchers and engineers in academic, homeland security, military and manufacturing settings requiring either a single specialized laser or a versatile laser system capable of future augmentation. This system, developed as the foundation for JMAR's Collimated Plasma Lithography (CPL) X-ray source, also provides the X-ray light source for JMAR's Compact X-ray Microscope. BriteLight™ technology is also the basis for JMAR's research into laser-induced breakdown spectroscopy (LIBS) for remote detection of hazardous materials in the field, supported by a SBIR contract from the U.S. Army.

In 2005 we entered into representation and sales agreements for BriteLight™ with LOT-Oriel, covering Europe, with Lastek, covering Australia and with SP Systec, covering South Korea.

### ***Compact Soft X-ray Sources***

JMAR's LPP X-ray Source is a compact alternative to a large synchrotron facility for certain soft X-ray applications, including X-ray microscopy, X-ray nano probes and X-ray lithography. JMAR's LPP X-ray Source consists of a laser driver and a soft X-ray generator. The laser may be any one of several configurations of JMAR's BriteLight™ lasers. The generator manages the target material upon which the laser light impinges to create a plasma point source of short wavelength (1-4 nanometer) light. The generator also collects and manages the plasma produced X-rays and controls the debris generated by the plasma.

### ***Compact X-ray Microscope***

During 2004, JMAR started developing X-ray microscope (XRM) technology based on the Company's LPP X-ray source. This development is aimed at new products enabling two dimensional (2D) imaging and three dimensional (3D) visualization of hydrated single biological cells and polymers at sub-50 nanometer resolution using X-ray tomography. At radiation wavelengths between 2-4 nm, most biological systems produce inherent absorption contrast due to the difference in absorption between carbon and oxygen.

Several XRM systems exist on synchrotron beam lines around the world and are used for imaging biological and other specimens. JMAR's innovation is to replace the synchrotron with a compact X-ray source, making the tool available to a large number of biological or cellular research laboratories, thereby accelerating research. The microscope, though simple in principle, is challenging

in practice due to the extremely small features being imaged. Zone plate optics are used to collect and focus the soft X-ray light and an X-ray sensitive CCD camera is used as a detector.

Key product development milestones for the XRM include LPP target optimization, design of the X-ray generator, and fabrication of the zone plate condenser optics. JMAR has established a scientific advisory board (SAB) to provide guidance on the design, development and application of the Company's XRM. We expect that the contributions from the SAB members during XRM development will ensure that we address industry needs while continuing to meet our product development milestones. JMAR has established the basis for an alliance with the National Center for Microscopy and Imaging Research (NCMIR) to facilitate a joint technical exchange and to prepare for initial operation characterization and demonstration of the Alpha Model of its X-ray microscope in the first half of 2006. We are pursuing strategic alliances for the XRM product line in 2006 to help fund this product and we expect our first orders for cell and polymer imaging systems in 2007.

### ***Compact X-ray Nano Probe***

During 2004, we began development of an X-ray Nano Probe (XNP) instrument concept for nanotech research and production, integrated circuit failure analysis and mask inspection, and pharmaceutical research.

In February 2006, we entered into a licensing agreement with Colorado State University Research Foundation (CSURF) as agent for Colorado State University (CSU) for the use of its discharge pumped soft X-ray laser, developed under the auspices of the National Science Foundation's (NSF) Engineering Research Center for Extreme Ultraviolet Science and Technology (EUV ERC). This laser produces high-intensity soft X-ray radiation at a wavelength shorter than any other laser on the market today and complements our LPP X-ray source that produces shorter wavelengths still.

The CSU soft X-ray laser enhances JMAR's ability to create an entirely new class of analytical instruments and nanostructure characterization tools. Characterized by a combination of high-spatial resolution (50nm) and ultra-high detection-sensitivity, our instruments and tools using CSU soft X-ray laser technology will enhance nanotechnology, life science and materials research. Representative applications include geolocation for nuclear forensics, assessment of microbial mineralization, molecular uptake imaging for cancer therapy, cellular uptake of carcinogens, cosmochemistry analysis, and defect-analysis and repairs for the semiconductor industry.

### ***Collimated Plasma Lithography (CPL)***

The semiconductor industry currently uses deep ultraviolet (DUV) lithography in its chip manufacturing process. X-ray lithography has three important attributes that differentiate it from DUV lithography: shorter wavelength (~1 nm vs. ~193 nm), larger depth of field (~2,000 nm vs. ~150 nm), and the ability to penetrate thick resist without high absorption. These attributes make X-ray lithography particularly well suited for printing fine features on wafers lacking smooth topology (e.g., compound semiconductor wafers, such as GaAs), and for printing very deep, high aspect features (e.g., C-RAM circuits). To distinguish its X-ray lithography technology from that which uses a synchrotron, JMAR calls its technology collimated plasma lithography (CPL). Manufacturers of compound semiconductors currently use electron beam tools to produce high aspect features. JMAR believes its CPL technology can achieve throughput five to ten times greater than that possible using electron-beam lithography.

In 2004, JMAR demonstrated the operation of CPL using its LPP X-ray source and X-ray stepper in a series of "iron man" tests. Nevertheless, it became clear that CPL faced a daunting set of challenges and risks involving the technology, product design, manufacturing cost, infrastructure readiness, industry momentum, financing, and competition from substitute lithography technologies. Since the anticipated large demand for X-ray lithography for GaAs semiconductor fabrication has not yet materialized, we have found other, more immediate, applications for our laser and X-ray technology, namely the XRM and XNP products discussed above. In addition, the Company's lithography expertise is being used to develop a zone plate manufacturing capability for its XRM and XNP products. However, if GaAs chip producers dramatically increase IC production in the future, X-ray lithography may present a significant business opportunity for JMAR.

### ***BioSentry™***

In 2004, JMAR acquired new technology and established a Sensor Products Group to develop and field an innovative sensor for continuous, on-line, real-time monitoring of drinking water for the presence of microorganisms. The BioSentry™ successfully passed proof of concept testing and we assembled fifteen Beta units for internal testing and installation at test and evaluation sites for different applications in the first and second quarters of 2005. In early March 2005, we entered into a Technology Testing and

Contingent Purchase Agreement with Olivenhain Municipal Water District (OMWD) which provides for the installation and testing of three Beta models of the BioSentry™ sensor at OMWD's water treatment plant in San Diego County. We installed the first Beta test units at OMWD shortly before the end of the first quarter of 2005. If the BioSentry™ units satisfy certain test criteria, including approval by the state regulator, OMWD has agreed to purchase three production units. In May 2005, a leading North American cruise ship operator requested installation of the BioSentry™ on a cruise ship. Installation and Beta testing started in June. In addition, in April 2005, we entered into a contract with Kimpen S.A. de C.V. (Kimpen), Mexico's largest beverage bottler and a subsidiary of one of Mexico's leading beverage development and manufacturing companies (Bepensa) to install a Beta model of the BioSentry™ at Kimpen's laboratory facility. After successful completion of Beta testing, Kimpen purchased two BioSentry™ production systems for installation in beverage production facilities. Kimpen had originally indicated that after successful testing of these two units they would purchase 15 more units, however, they recently suspended this 15 unit order due to financial constraints at Bepensa.

In November 2005, we entered into an agreement with a major U.S. city to install and test the BioSentry™ in a central public facility for a homeland security application for deliberate, harmful biological contamination of drinking water. In addition, in December 2005, the city of Wichita purchased two BioSentry™ systems to help protect the city's drinking water against the possible introduction of Cryptosporidium or other harmful microorganisms. In January 2006, we entered into a representation and distributor agreement with ExcelFirst, covering the United Kingdom, Ireland, and Belgium, focusing on the municipal water utilities market. We plan to pursue strategic partners in 2006 for the BioSentry™ product line to help accelerate its market introduction.

### ***Microelectronics Process Integration Services***

JMAR provides technology development and high-value technology services to a government semiconductor producer. This business is based on a contract originally awarded to the Company by General Dynamics Advanced Information Systems (GDAIS) in 1998. Work under this contract includes the development, construction, and operation of a semiconductor wafer fabrication facility in McClellan, California for the Defense Microelectronics Activity (DMEA). Under this program, JMAR applies its in-depth semiconductor industry experience and relationships to define and acquire the technologies and semiconductor equipment needed to support its customer's mission.

### ***READ Sensor Systems***

Under an agreement with FemtoTrace, Inc. (a company formed to commercialize technology licensed from the Jet Propulsion Laboratory (JPL)), JMAR's Vermont Operations is engaged in the design and manufacture of alpha and beta sensor systems that will be used in certain environmental applications and that have potential to meet urgent homeland security needs. This sensor system uses a mass spectrometer-based technology named Reversal Electron Attachment Detection (READ) developed by FemtoTrace. If the READ product meets technical and sales objectives, JMAR expects to enter into an agreement with FemtoTrace to provide for the exclusive manufacture of production units of this highly sensitive, real-time organic chemical detection system at JMAR's Vermont facility.

### ***Risk Factors***

Our ability to achieve our operating and financial goals is subject to a number of risks, including risks relating to our business operations, our ability to finance our operations, and technical risks associated with our new products. If any of the risks actually occur, our business, operating results, prospects or financial condition could be materially and adversely affected. The risks below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also affect our business operations.

**Our continuing decline in revenues and our net and operating losses are significant and could have an adverse impact on our stock price.**

Our revenues for the years ended December 31, 2005, 2004 and 2003 were \$9,163,520, \$10,059,839 and \$17,296,508, respectively. Our net loss for 2005, 2004 and 2003 was \$8,032,803, \$5,632,140 and \$3,278,463, respectively. Our continuing product development efforts may lead to increased expenditures which may increase the amount of our losses. Failure to achieve significant sales of our new products in the future and continued losses will reduce our shareholders' equity, could adversely impact the continued listing of our stock on the NASDAQ Capital Market, and could have a significant adverse impact on our stock price.

**Our cash requirements are significant and if we do not generate sufficient funds from operations or obtain additional financing we may be unable to continue our present product development activities.**

Our cash requirements have been and will continue to be significant. Our cash used in operating activities for the years ended December 31, 2005, 2004 and 2003 was \$4,604,174, \$4,458,323 and \$5,541,874, respectively. These negative cash flows are primarily related to operating losses, discontinued operations, and fluctuations in working capital items.

We will continue to use cash in 2006 for 1) product development efforts, and to acquire or license products, technologies or businesses; 2) corporate costs, primarily related to the cost of being a public company; 3) preferred stock dividends; and 4) other working capital needs. We completed a \$3.63 million financing in December 2005 and January 2006 (December 2005 Offering), but we will require additional financing in 2007 to complete or accelerate the development of some of our high value emerging new products and for working capital requirements. The Company's Working Capital Line (Line) with Laurus Master Fund (Laurus) expired March 21, 2006. On March 28, 2006, the Company renewed its Working Capital Line with Laurus. Also on March 28, 2006, the Company issued a new Series of Preferred Stock to Laurus in exchange for \$6,393,980 of the \$7,850,000 Series F, G and H Preferred Stock, resulting in a deferral until August 2007 through August 2008 of the redemption payments originally due under the Company's Series F-H Preferred Stock. These redemption payments were originally due starting August 2006 through February 2007. Management believes that with the \$3.63 million financing and the transactions with Laurus, the Company has adequate resources to fund working capital requirements and product development through December 31, 2006.

**You will experience additional dilution if the Company is not successful in selling its new products in 2006 and 2007.**

We intend to continue to invest significant funds in our new product development programs and we will need to raise additional funds in order to continue our product development and sales and marketing activities and for other working capital needs in 2007. In such event, we would expect to seek to raise such capital through the sale of our equity securities, and, as a result, shareholders will experience significant further dilution.

**The failure to maintain shareholder's equity above \$2.5 million or market capitalization of \$35 million or to sustain a minimum share price of \$1.00 per share could result in delisting of our shares on the NASDAQ Stock Market.**

In order to retain our listing on the NASDAQ Capital Market, we are required to maintain (i) stockholders' equity of \$2.5 million, or (ii) market value of common stock of \$35 million. As of December 31, 2005, our shareholder's equity was \$4,555,228. As of April 5, 2006, the market value of our common stock was approximately \$30 million. Although our shareholders' equity is currently in excess of the \$2.5 million minimum requirement to maintain our listing, continued losses without increases in equity could cause us to fall below this NASDAQ requirement, and if the market value of our common stock is below \$35 million at that time, we would be required to come into compliance or face delisting. In order to retain our listing on the NASDAQ Capital Market, we must also maintain a minimum bid price of \$1.00 per share for at least 30 consecutive trading days. If the bid price falls below the \$1.00 minimum for more than 30 trading days, we will have 180 days to satisfy the \$1.00 minimum bid price for a period of at least 10 trading days. Our stock traded below this \$1.00 minimum in the March-May, 2003 timeframe and traded below \$1.00 in March and April, 2006.

The failure to maintain our listing on the NASDAQ Capital Market would have an adverse effect on our stock price and our ability to attract additional capital needed to sustain our operations.

**Our outstanding preferred stock has a liquidation preference of \$7,850,000, which is in excess of our total stockholders' equity.**

Our currently outstanding Convertible Preferred Stock has a total Stated Value of \$7,850,000 as of March 27, 2006. Upon the dissolution, liquidation or winding up of the Corporation, whether voluntary or involuntary, the holders of the Company's Preferred Stock are entitled to receive, before any payment or distribution shall be made on the common stock out of the assets of the Corporation available for distribution to the stockholders, the Stated Value per share of the Company's Preferred Stock then outstanding and all accrued and unpaid dividends. In the event of a dissolution, liquidation or winding up of the Corporation, holders of common stock may lose their entire investment.

**If our product development programs are not successful, it will harm our business.**

The development of sophisticated laser-based systems and sensors, such as our BioSentry™, X-ray Microscope and our X-ray Nano Probe products, is a lengthy and capital intensive process and is subject to unforeseen risks, delays, problems and costs.

We have had limited success in past product development efforts, including the failure to achieve market acceptance of our Collimated Plasma Lithography (CPL) products and in our efforts to establish a standard semiconductor products business. We cannot assure you that we will be able to successfully develop our new products, or that unanticipated technical or other problems will not occur which would result in delays in our development programs.

Achieving market acceptance for our new products requires a significant effort to convince customers to adopt our products and technologies over other alternative products and technologies. In the case of each of our new product development efforts, this requires demonstrating that our products have superior performance to the alternative products and technologies and are more cost-effective. In addition to the expenditures required to complete and commercialize these products, this will require substantial technical, marketing and sales efforts and the expenditure of significant funds to create customer awareness of and demand for our products. We cannot assure you that our new products will achieve significant market acceptance in the future or result in significantly increased levels of revenues.

In addition to the technical performance of our BioSentry™ and other products, the success of the BioSentry and other product lines is dependent in part on the Company's estimates of the potential market for such systems. Because many of the expected markets for a detection system such as the BioSentry, as well as for the Company's X-ray source-related products, do not presently exist, the Company has had to make a number of assumptions about the size and needs of such markets. As a result, the Company's estimates about the size and nature of the expected markets for the BioSentry and other products may be inaccurate and the ultimate markets, and the actual sales of products into those markets, could be significantly less than the Company's current estimates reflect. If the actual markets for the Company's new products are not of the magnitude expected, or if they do not develop at the rate the Company expects, the Company's revenues and financial condition will be adversely affected.

**We depend on third party suppliers of various components for our equipment business and our business will be harmed if the supply of key components is interrupted or discontinued.**

Our Research Division, Vermont Operation, and our Sensor Products Group (BioSentry) are dependent on third party suppliers for components used in the development and manufacture of our products. If certain key components are delayed or unavailable, we might have to reengineer our products, resulting in delays and increased costs, or we may have to pay other suppliers more to obtain those components, which could adversely affect our business. In addition, our cost models contemplate that multiple suppliers and greater volume purchases will bring down the manufacturing costs to make our new systems more competitively priced.

Although we anticipate having multiple sources of supply for the components used in our future production systems, there are no assurances that additional suppliers will materialize. In particular, our X-ray Microscope and X-ray Nano Probe products require certain X-ray optics called zone plates that are difficult and expensive to manufacture. We have identified suppliers of zone plates and have also initiated an effort to manufacture zone plates in-house. If we cannot obtain these zone plates when needed at an acceptable cost, then we will need to rely on other optics, which would involve additional re-engineering and related delays and additional costs which could adversely affect our business. Our BioSentry product development effort also relies on certain complex optics. If we cannot obtain these complex optics when needed at an acceptable cost, then we may have to redesign the product, which would involve additional re-engineering and related delays and additional costs which could adversely affect our business.

**The success of our business is dependent on our ability to compete effectively, particularly against larger, more established companies with greater resources.**

The markets for our products are highly competitive and are characterized by rapid technological change and evolving industry standards. For example, although we are not aware of any products in the market for detecting and classifying microorganisms similar to our BioSentry™ product, water utilities and other water industry customers currently employ other products and technologies, such as filters and ultraviolet disinfection systems, to remove or neutralize microorganisms from the water supply. Our X-ray Microscope and X-ray Nano Probe products provide alternative "soft" X-rays for the microscopy and materials processing markets. Currently, the intended users of soft X-rays must pay for time on large synchrotrons to perform their intended processes. Alternatively, for biological experimentation, other technologies are available, such as transmission electron microscopy, to perform the types of analyses performed by our new X-ray Microscope product. While we believe that our new X-ray products will provide certain functions that the current competitive products and technologies cannot provide (e.g., lower capital and operating expense; more rapid performance), there is a risk that our intended customers may not view these benefits as outweighing the features of established products and technologies (which include better resolution in the case of transmission electron microscopes or lower costs in the case of optical microscopes).

Further development by others of new or improved products, processes or technologies may make our products obsolete or less competitive. Our ability to compete is dependent on our ability to continually enhance and improve our products and to successfully develop and market new products. Many of our competitors have greater financial, managerial and technical resources than we have. We cannot assure you that we will successfully differentiate ourselves from our competitors, that the relevant markets will consider our products to be superior to our competitors' products or that we will be able to adapt to evolving markets and technologies, develop new products or achieve and maintain technological advantages.

**A substantial portion of our current revenue depends on sales to a few customers. We have relied on funding from the U.S. Department of Defense for a significant portion of our research and development activities in the past and expect significantly less funding of our new product developments from the government in the future.**

To date, our CPL development program has received in excess of \$62 million in funding under DARPA contracts over the past 10 years, with \$3.5 million and \$3.7 million received in 2005 and 2004, respectively. In 2005, approximately 82 percent of our revenues were derived as the prime contractor or subcontractor for three government contracts. One of the contracts is issued to our Research Division by the U.S. Army Research Laboratory sponsored by DARPA for further development of our CPL system (DARPA Contract). In February, 2005, we received the last \$3.5 million in funding under the DARPA Contract. No further program funding related to the DARPA Contract is included in the United States Government's budget and we expect no further funding under this contract after the receipt of the \$3.5 million. We continue to receive funding from the Government under a separate DARPA/NAVAIR contract (NAVAIR Contract) for the procurement of X-ray masks and for the fabrication of certain X-ray optics, to be used in our X-ray Microscope and X-ray Nano Probe product development programs. The funding for the NAVAIR Contract has been Congressionally mandated and is subject to the risk of losing Congressional support.

The DOD's overall budget, and our participation therein, is subject to reduction based upon a number of factors, including general budgetary constraints, shifting priorities of the specific governmental agency which sponsors the funding and our own performance under our contracts with the Government. We do not expect to receive funding from government sources at similar levels in the future. The Company is relying on the sale of its new products in 2006 and beyond, together with financing transactions, which could include strategic alliances, to support continued product development and operations. To the extent we continue to invest in product development, these expenditures will increase our losses accordingly.

A major source of revenue has been the subcontract between JMAR's Microelectronics Division and General Dynamics Advanced Information Systems (GDAIS) to enhance and maintain the semiconductor wafer fabrication processes installed at the McClellan Air Force Base in Sacramento for the DMEA. This work, which started in 1998, has resulted in a new subcontract each year out of funds available in the DMEA's budget as an element of the Department of Defense's Advanced Technology Support Program. The Company received \$3.5 million in contracts in 2004, \$2.3 million in letter contracts in 2005 and the final approximately \$1.9 million against a \$4.2 million contract finalized in February 2006. In March 2006, GDAIS informed the Company that DMEA does not want to provide the additional funding required to support the costs imposed by both JMAR and GDAIS on the DMEA Contract and that the funding will only be sufficient to provide for one contractor. Unless DMEA and GDAIS change their positions, JMAR will not receive additional subcontract funding for the remainder of 2006 and beyond. The Company is not hopeful that this decision will change. The viability of the Microelectronics Division is dependent on continued funding from GDAIS/DMEA. In light of this recent development, the Company is evaluating the cost control and organizational actions it needs to take in response to the probability that the funding will not be continued.

**Declines in our operating performance and other factors adversely affecting the valuation of our business units could ultimately result in an impairment of our goodwill.**

As of December 31, 2005, there was \$4,415,932 in goodwill reflected on our balance sheet, all of which is related to our Vermont Operations/Research Division business unit. We assess potential impairments to our goodwill when there is evidence that events or changes in circumstances indicate that the carrying value may not be recoverable. We assess potential impairments to goodwill annually and when there is evidence that events or changes in circumstances indicate that an impairment condition may exist. Factors adversely affecting the business unit's future potential revenues and cash flow, as well as factors adversely affecting the Company's market capitalization, will adversely affect the valuation of the Company's goodwill and could lead to an impairment of the Company's goodwill. If we do not achieve our planned operating results, this may ultimately result in a substantial non-cash impairment charge related to our goodwill. A significant impairment loss would cause a further increase in our net losses with a corresponding reduction in our shareholders' equity.

**Our BioSentry™ product may be subject to various governmental approvals that may limit our ability to market and sell our product.**

In some cases, the use of our BioSentry™ product by the water utility industry, the commercial water bottling industry and others may require approval by governmental regulators prior to the commercial use of such units by our customers. In other cases, the acceptance of our BioSentry product may be enhanced by certification or other approvals by industry groups or government regulators. In the case of Olivenhain Municipal Water District (OMWD), one of our customers, our agreement with OMWD to purchase BioSentry production units is dependent upon the determination by a state regulator that the BioSentry unit may be implemented in lieu of an earlier mandate that the utility employ other means to reduce the concentration of certain microorganisms in its water. The failure to obtain approval of various state and federal agencies could adversely impact the sale of our BioSentry products.

**Our quarterly operating results may fluctuate significantly. As a result, we may fail to meet or exceed the expectations of securities analysts and investors, which could cause our stock price to decline.**

Our quarterly revenues and operating results have fluctuated in the past and may continue to vary from quarter to quarter due to a number of factors, including the risk factors set forth in this section. If our operating results do not meet the expectations of securities analysts or investors, our stock price may decline.

**If we lose key personnel or are unable to attract and retain additional, highly skilled personnel required for the expansion of our activities, our business will suffer.**

Our success is substantially dependent on the efforts of certain key personnel. In particular, our new X-ray-based product development efforts rely on the skill of several key laser and laser plasma scientists and engineers and our BioSentry™ product development effort relies on the skills of several key technical personnel in the areas of scattered-light-based detection systems, algorithms used to interpret the results of scattered light and microorganism morphology, as well as personnel experienced in the water industry. The loss of such personnel would adversely affect our business and prospects. In such event, we cannot assure you that we would be able to employ qualified persons on terms favorable to us. In seeking and retaining qualified personnel, we are required to compete with companies having greater financial and other resources than we have. Since our future success is dependent upon our ability to retain or attract qualified personnel, our failure to do so could have an adverse impact on our business.

**Asserting, defending and maintaining intellectual property rights is difficult and costly and the failure to do so could harm our ability to compete and the results of our operations.**

We rely, to a significant extent, on patents, trade secrets and confidentiality agreements to protect our proprietary technology. We cannot assure you as to the breadth or degree of protection which existing or future patents, if any, may afford us, or that patents will not be circumvented or invalidated, or that our products do not and will not infringe on patents or violate proprietary rights of others. In the event a patent infringement claim is asserted against us, or we are required to enforce our rights under an issued patent, the cost of such actions may be very high, whether or not we are successful. While we are unable to predict what such costs, if any, will be if we are obligated to pursue patent litigation, our ability to fund our operations and to pursue our business goals may be substantially impaired.

Our BioSentry™ product uses scattered light to detect particles in fluids. This field is the subject of substantial patent activity. We have entered into License Agreements with PointSource Technologies, The LXT Group and NASA, covering the license of technologies related to the BioSentry product area. Although JMAR believes that the patents and technology licenses from PointSource, LXT and NASA, as well as the technology that we have developed in-house, provide adequate coverage for our current BioSentry product, we can give you no assurances that the technologies that we want or need to use in the future in this field may not infringe on the patents or proprietary rights of others. If we need to use technologies owned by third parties in connection with our BioSentry products and cannot license them on reasonable terms, our ability to develop, manufacture and commercialize our BioSentry products will be adversely impacted, which would adversely affect our business and our stock price.



**If our outstanding options and warrants are exercised and if our preferred stock is converted it will result in substantial dilution.**

As of December 31, 2005, we had outstanding 38,823,158 shares of common stock. Substantially all of the outstanding shares of the Company's common stock are freely tradable without restriction or further registration under the Securities Act. Affiliates may sell the shares they own pursuant to Rule 144, subject to certain notice filing and volume limitations.

As of December 31, 2005, there were 9,783,848 shares of common stock subject to issuance upon exercise of outstanding options and warrants. As of March 28, 2006, we had outstanding \$7,850,000 stated value of Series G and I Convertible Preferred Stock. The outstanding Series G Preferred Stock is convertible into shares of common stock at \$2.00 per share and the outstanding Series I Preferred Stock is convertible into shares of common stock at \$1.16 per share. Subject to a contractual limitation on total beneficial ownership by Laurus to 4.99% of our common stock, the Series G and I Preferred Stock is convertible into 6,240,062 shares of Common Stock.

In connection with an offering of common stock and warrants completed in February, 2005 (February 2005 Offering), certain investors were granted the right to purchase up to 30% of certain future offerings of our securities on the same terms as are offered in such future offerings. This right continues until February, 2007. In connection with the execution of a License Agreement with PointSource Technologies, LLC (PointSource) in January, 2005, affiliates of PointSource (PointSource Investors) were granted the right to purchase approximately 1.66% of certain completed offerings of our securities on the same terms as were offered in such offerings. This right must be exercised within 20 days after we give notice to the PointSource Investors of the completion of a securities offering. This right continues until July, 2006.

To the extent that outstanding options, warrants and other purchase rights are exercised prior to their expiration dates, additional funds will be paid into us at the expense of dilution to the interests of our stockholders. Moreover, the terms upon which we will be able to obtain additional equity capital may be adversely affected since the holders of outstanding options and warrants and other securities can be expected to exercise or convert them at a time when we would, in all likelihood, be able to obtain any needed capital on terms more favorable to us than those provided in such securities. The sale of the shares issued upon exercise of our outstanding warrants and options and conversion of our Convertible Note and Preferred Stock could adversely affect the market price of our common stock.

**If product liability claims are brought which exceed our liability insurance limits our business would be harmed.**

We may be exposed to potential product liability claims arising out of the use of our products. Although we maintain product liability insurance on our current products, we cannot assure you that such insurance will be sufficient to cover potential claims or that the present level of coverage will be available in the future at a reasonable cost. A partially or completely uninsured successful claim against us could have a material adverse affect on our business. There can be no assurance that as we complete the commercialization and introduction of new products that insurance will be available on economically favorable terms or in amounts adequate to cover the risks associated with these new products.

**We do not presently intend to pay cash dividends to our shareholders.**

We have never paid cash dividends on our common stock and intend, for the foreseeable future, to retain our earnings, if any, to finance our business. Future dividend policy will depend on our earnings, capital requirements, financial condition, debt covenants and other factors considered relevant by our Board of Directors.

**Our ability to use our entire net operating loss carryforward is limited by prior changes in ownership and may be further limited in the future.**

We have federal net operating loss carry-forwards of approximately \$58 million at December 31, 2005. These NOLs expire incrementally through 2025. Realization of future tax benefits from utilization of our net operating loss carry-forwards for income tax purposes is limited by changes in ownership in 1990, 1992 and 1993. Of the total NOLs, annual limitations of \$695,000 apply to approximately \$2.9 million of the NOLs and the balance is subject to these annual limitations. In addition, the net operating losses of acquired companies are also subject to separate change of ownership limitations. Due to our taxable losses in the past three years, we have been unable to take advantage of the benefits of these NOLs. The realization of the benefits of these NOLs is dependent upon our recognition of taxable income in the future prior to the expiration of the NOLs.

**If we issue shares of preferred stock with greater rights than the common stock, it could result in the decrease in market price of the common stock and could delay or prevent a change in control of us.**

Our Board of Directors is authorized to issue up to 5,000,000 shares of preferred stock, of which 785,000 shares of Series G and I Preferred Stock were outstanding as of March 28, 2006. As a result of prior issuances of a total of 1,450,000 shares of preferred stock that were subsequently converted into common stock, a total of 2,765,000 shares of Preferred Stock are available for issuance in the future. Our Board of Directors has the power to establish the dividend rates, liquidation preferences, voting rights, redemption and conversion terms and privileges with respect to any series of preferred stock. The issuance of any shares of preferred stock having rights superior to those of the common stock may result in a decrease in the value or market price of the common stock. Holders of preferred stock may have the right to receive dividends, certain preferences in liquidation and conversion rights. The issuance of preferred stock could, under certain circumstances, have the effect of delaying, deferring or preventing a change in control of us without further vote or action by the stockholders and may adversely affect the voting and other rights of the holders of common stock.

## **Securities Information**

The Company's common stock is traded on the Nasdaq Capital Market under the symbol JMAR. The 2005 and 2004 high and low transaction prices for the common stock as reported by NASDAQ are set forth in the following table.

### **Common Stock Price**

	<u>High</u>	<u>Low</u>
<b>2005</b>		
First Quarter	1.77	1.29
Second Quarter	1.48	1.10
Third Quarter	1.59	1.17
Fourth Quarter	1.48	1.00
<b>2004</b>		
First Quarter	4.72	1.96
Second Quarter	3.70	1.75
Third Quarter	2.14	1.03
Fourth Quarter	2.13	1.27

As of March 9, 2006, there were approximately 13,000 holders of JMAR's common stock.

The Company has never paid cash dividends on its common stock. The Company currently intends to retain earnings for use in the operation and expansion of its business and therefore does not anticipate paying any cash dividends in the foreseeable future. The payment of dividends in the future by the Company on its common stock will be dependent on its earnings and financial condition and such other factors considered relevant by the Company's Board of Directors.

### Consolidated Statements of Operations Data – For the Years Ended December 31,

	2005	2004	2003	2002	2001
Revenues	\$ 9,163,520	\$ 10,059,839	\$ 17,296,508	\$ 18,383,810	\$ 12,903,811
Gross profit	2,378,561	1,998,740	3,964,627	3,413,492	3,499,243
Operating expenses	10,321,734	6,932,671	5,554,609	6,571,505	4,989,402
Loss from operations	(7,943,173)	(4,933,931)	(1,589,982)	(3,158,013)	(1,490,159)
Realized gain on sale of marketable securities	—	—	—	1,349,721	1,189,273
Interest and other income	171,521	158,144	63,225	67,404	252,282
Interest and other expense	(261,151)	(641,460)	(559,957)	(236,015)	(107,950)
Loss from continuing operations before income taxes	(8,032,803)	(5,417,247)	(2,086,714)	(1,976,903)	(156,554)
Income tax expense	—	—	—	(484,423)	—
Loss from continuing operations	(8,032,803)	(5,417,247)	(2,086,714)	(2,461,326)	(156,554)
Loss from operations of discontinued operations	—	(214,893)	(1,396,749)	(5,839,367)	(14,544,980)
Gain (loss) on disposal of discontinued operations	—	—	205,000	(3,200,000)	—
Net loss	(8,032,803)	(5,632,140)	(3,278,463)	(11,500,693)	(14,701,534)
Preferred stock dividends	(2,091,232)	(2,247,876)	(942,903)	—	—
Loss applicable to common stockholders	(10,124,035)	(7,880,016)	(4,221,366)	(11,500,693)	(14,701,534)
Basic loss per share:					
Loss per share from continuing operations	\$ (0.29)	\$ (0.25)	\$ (0.12)	\$ (0.11)	\$ (0.01)
Loss per share from discontinued operations	—	(0.01)	(0.04)	(0.38)	(0.64)
Loss per share applicable to common stock	\$ (0.29)	\$ (0.26)	\$ (0.16)	\$ (0.49)	\$ (0.65)
Basic shares used in computation of loss per share	34,924,561	30,758,689	25,618,296	23,618,169	22,484,905

### Consolidated Balance Sheet Data – December 31,

	2005	2004	2003	2002	2001
Working capital (deficit)	\$ 4,036,601	\$ 7,180,382	\$ 2,427,166	\$ (780,117)	\$ 7,843,465
Total assets	16,317,944	17,426,098	13,493,183	15,121,660	26,618,625
Short-term debt	162,351	145,019	2,395,445	1,556,405	3,007,152
Long-term liabilities	773,222	465,492	449,873	1,708,804	1,419,632
Redeemable preferred stock	6,969,341	8,087,274	2,217,150	—	—
Stockholders' equity	4,555,228	5,101,925	5,277,800	3,677,994	14,299,655

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

### Overview

JMAR Technologies, Inc. is a leading innovator in the development of laser-based equipment for imaging, analysis and fabrication at the nano-scale. The Company is leveraging more than a decade of laser and photonics research to develop a diverse portfolio of products with commercial applications in rapidly growing industries, while continuing to carry out research and development for the U.S. Defense Advanced Research Projects Agency (DARPA) and support for the U.S. Government's Defense Microelectronics Activity (DMEA) semiconductor fabrication facility.

In 2004, with the future prospects of its CPL product development program uncertain and with the benefit of a substantial investment in intellectual property related to soft X-ray generation, JMAR implemented a new strategy to balance, diversify and expand its revenue base through new product development and technology acquisition. During 2005, we complemented our progress in product development and market validation with preparation for sales, manufacturing, distribution and product introduction.

JMAR is targeting the nanotechnology, bioscience and semiconductor industries with its BriteLight™ Laser; X-ray Light Source; Compact X-ray Microscope – for 3D visualization of single cells and polymers; and X-ray Nano Probe – enabling interaction, analysis and materials modification at the nano-scale. JMAR also develops, manufactures and markets its BioSentry™ microorganism contamination warning system and maintains a strategic alliance for the production of the READ chemical sensor for homeland security, environmental and utility infrastructure industries.

## Sources of Revenue

### Contract Research and Development, Technical Support, and Production Programs

Currently, the majority of the Company's revenues are derived as the prime contractor or subcontractor for three government contracts. These contracts have generated intellectual property owned by the Company in areas in which the Company believes there are significant commercial applications.

A major source of revenue has been the subcontract between JMAR's Microelectronics Division and General Dynamics Advanced Information Systems (GDAIS) to enhance and maintain the semiconductor wafer fabrication processes installed at the former McClellan Air Force Base in Sacramento for the DMEA (GDAIS Contract). This work, which started in 1998, has resulted in a new subcontract each year out of funds available in the DMEA's budget as an element of the Department of Defense's Advanced Technology Support Program. The Company received \$3.5 million in contracts in 2004, \$2.3 million in letter contracts in 2005 and the final approximately \$1.9 million against a \$4.2 million contract finalized in February 2006. In March 2006, GDAIS informed the Company that DMEA seeks to avoid the additional funding required to support the costs imposed by JMAR working under GDAIS as a subcontractor on the DMEA Contract and that the funding will only be sufficient for a prime contractor. Unless DMEA and GDAIS change their positions, JMAR will not receive additional subcontract funding for the remainder of 2006 and beyond. The Company is not hopeful that this decision will change. The viability of the Microelectronics Division is dependent on continued funding from GDAIS/DMEA. In light of this recent development, the Company is evaluating the cost control and organizational actions it needs to take in response to the probability that the funding will not be continued.

A contract issued to JMAR's Vermont Operations by Naval Air Warfare Center AD, supports continued X-ray lithography technology and infrastructure development. Under this contract, JMAR procures sub-100 nm feature size X-ray masks used in the development and production of high performance GaAs MMICs and to produce zone plate optics (NAVAIR Contract). A total of \$12.4 million has been received under this contract, including \$3.6 million funded in July 2005. The present total contract amount is \$17.5 million, with incremental funding under the contract sought on an annual basis.

The U.S. Army Research Laboratory contract sponsored by DARPA and issued to JMAR's Research Division has facilitated development of the Company's Collimated Plasma Lithography (CPL) system (DARPA Contract). A total of \$23.7 million has been funded under this contract since 2001, including \$3.5 million funded in February 2005 (the receipt of funding allows the Company to bill for costs incurred). No program funding related to the DARPA Contract is included in the United States Government's current fiscal year budget and the Company expects no further funding under this contract.

Through our commercial collaboration with FemtoTrace, Inc., JMAR has designed and manufactured two Alpha versions of the READ sensor, a highly sensitive chemical detection system under contract for FemtoTrace. The first Alpha has been shipped to the customer and the second unit is ready for final integration and test. JMAR has also received purchase orders for three Beta READ units from FemtoTrace. It has designed and manufactured these units, the first of which is ready for final test. JMAR is also discussing the terms of an agreement to act as contract manufacturer for the production units of FemtoTrace's READ sensor product line.

### Standard Products

JMAR's diode pumped solid state BriteLight™ Laser, developed specifically to enable the efficient production of soft X-rays using laser produced plasma, is now marketed by JMAR as a standard product for advanced laser applications. Commercial BriteLight™ units are presently operating in Korea and at the Lawrence Livermore National Laboratory. JMAR is carrying out manufacturing engineering to reduce production costs and to expand the addressable market for this high performance laser.

In 2004, JMAR acquired new technology and established a Sensor Products Group to develop and field an innovative sensor for continuous, on-line, real-time monitoring of drinking water for the presence of microorganisms. The BioSentry™ successfully passed proof of concept testing and we assembled fifteen Beta units for internal testing and installation at test and evaluation sites for different applications in the first and second quarters of 2005. In early March 2005, we entered into a Technology Testing and Contingent Purchase Agreement with Olivenhain Municipal Water District (OMWD) which provides for the installation and testing of three Beta models of the BioSentry sensor at OMWD's water treatment plant in San Diego County. We installed the first Beta test units at OMWD shortly before the end of the first quarter of 2005. If the BioSentry™ Beta units satisfy certain test criteria, including approval by the state regulator, OMWD has agreed to purchase three production units. In addition, in April 2005, we entered into a contract with Kimpen S.A. de C.V. (Kimpen), Mexico's largest bottler and a subsidiary of one of Mexico's leading beverage development and manufacturing companies (Bepensa) to install a Beta model of the BioSentry™ at Kimpen's laboratory facility.

After successful completion of Beta testing, Kimpen purchased two BioSentry™ production systems for installation in beverage production facilities. Kimpen had originally indicated that after successful testing of these two units they would purchase 15 more units, however, they recently suspended this 15 unit order due to financial constraints at Bepensa. Kimpen and JMAR have agreed to cooperate to reinstate the 15 unit order later in the year by joint selling efforts to each of 15 Bepensa beverage plants. Also, in May 2005, a leading North American cruise ship operator requested installation of the BioSentry™ on a cruise ship. Installation and Beta testing started in June 2005.

In November 2005, we entered into an agreement with a major U.S. city to install and test the BioSentry™ in a central public facility for a homeland security application for deliberate, harmful biological contamination of drinking water. In addition, in December 2005, the city of Wichita purchased two BioSentry™ systems to help protect the city's drinking water against the possible introduction of Cryptosporidium or other harmful microorganisms. In January 2006, we entered into a representation and distributor agreement with ExcelFirst, covering the United Kingdom, Ireland, and Belgium, focusing on the municipal water utilities market.

#### New Products Under Development

JMAR has identified commercial opportunities for instruments enabled by the laser and soft X-ray generator technology developed by the Company over the past decade in pursuit of CPL. Compact X-ray Microscope and X-ray Nano Probe products are under development and targeted at large addressable markets. JMAR will continue to pursue government funding in areas that support its needs and create valuable technology to support JMAR's soft X-ray based new product development efforts.

As JMAR seeks to add commercial revenues to our predominately government contract revenue base, we face a series of challenges, including technical and market risks and uncertainties associated with the development of new technologies and new products. Our product development efforts will require substantial continued investment by JMAR and we expect to face challenges in transitioning each of our new products from the proof of concept, alpha and beta stages to commercial introduction and market acceptance. See "Risk Factors" in Item 1A above for more information on the risks and uncertainties faced by JMAR.

#### **Results of Operations**

##### *Year Ended December 31, 2005 Compared to Year Ended December 31, 2004*

**Revenues.** Total revenues for the years ended December 31, 2005 and 2004 were \$9,163,520 and \$10,059,839, respectively, the majority of which were contract revenues. Revenues for 2005 and 2004 were as follows:

	<u>2005</u>	<u>2004</u>
Research Division	\$ 1,901,246	\$ 3,575,633
Vermont Operations	3,861,407	2,785,929
Microelectronics Division	3,399,268	3,698,277
Sensor Products Group	1,599	—
	<u>\$ 9,163,520</u>	<u>\$ 10,059,839</u>

The decrease in revenues for the year ended December 31, 2005 compared to the year ended December 31, 2004 was primarily attributable to a decrease of \$2,882,171 in revenues related to the DARPA Contract, a decrease of \$289,539 in contract revenues at the Microelectronics Division and a decrease of \$358,847 related to two contracts completed in 2004 at the Vermont Operations. Offsetting these declines were an increase of \$1,766,829 in revenues of the NAVAIR Contract and sales of \$592,570 for two BriteLight(TM) systems. The lower revenues for the DARPA Contract in 2005 is related to the fact that no additional funding related to the DARPA Contract was included in the U.S. Government fiscal year 2005 budget and no further funding on this contract is expected beyond the funds received in February 2005. The NAVAIR Contract revenues are higher in 2005 due to funding received later in 2004. As mentioned above, in March 2006, GDAIS informed the Company that DMEA seeks to avoid the additional funding required to support the costs imposed by JMAR working under GDAIS as a subcontractor on the DMEA Contract and that the funding will only be sufficient for a prime contractor. Unless DMEA and GDAIS change their positions, JMAR will not receive additional subcontract funding for the remainder of 2006 and beyond. The Company is not hopeful that this decision will change. The viability of the Microelectronics Division is dependent on continued funding from GDAIS/DMEA. In light of this recent development, the Company is evaluating the cost control and organizational actions it needs to take in response to the probability that the funding will not be continued.

*Losses.* The net loss for the years ended December 31, 2005 and 2004 was \$(8,032,803) and \$(5,632,140), respectively. The loss from continuing operations for those same periods was \$(8,032,803) and \$(5,417,247), respectively, while the loss from operations for those same periods was \$(7,943,173) and \$(4,933,931), respectively. Included in the net loss for the years ended December 31, 2005 and 2004 are costs invested in product development (see further discussion below) of \$3,395,683 and \$1,722,329, respectively, and a non-cash interest charge of \$206,821 and \$442,029, respectively (see "Interest and Other Expenses" below). Also included in the net loss for the years ended December 31, 2005 and 2004 are asset writedowns of \$218,232 and \$191,575, respectively. Included in the net loss for the year ended December 31, 2004 is a loss from discontinued operations of \$214,893.

*Gross Margins.* Gross margins for the fiscal years ended December 31, 2005 and 2004 were 26.0% and 19.9%, respectively. The Company's margins are low because the majority of its revenues are from contract revenues, which inherently generate lower margins than product revenues. The primary increase in the gross margin for the year ended December 31, 2005 compared to the prior year is due to the commercial sale of a BriteLight™ system by the Research Division in the first quarter and a contract reserve of approximately \$316,000 for the year ended December 31, 2004 related to reserves on a contract at the Vermont Operations and inventory reserves of approximately \$168,000 also at the Vermont Operations. Although it is expected to be less of a percentage in 2006 compared to 2005, the majority of the Company's revenues for 2006 will be derived from contracts, so gross margins are expected to continue at similar levels increased somewhat by higher gross margins expected later in 2006 from sales of BioSentry™ products. The Company is investing in new product development activities that it believes will lead to higher margin products in the future.

*Selling, General and Administrative (SG&A).* SG&A expenses for the fiscal years ended December 31, 2005 and 2004 were \$6,707,819 and \$5,018,767, respectively. The increase in SG&A expenses for 2005 was primarily attributable to higher SG&A costs of the Sensor Products Group formed in the quarter ended June 30, 2004 of approximately \$1,252,000, higher legal costs of approximately \$102,000, higher rent of approximately \$129,000, higher fixed asset depreciation and amortization of approximately \$107,000, higher insurance costs of approximately \$45,000 and higher accounting fees of approximately \$63,000. The increase for 2005 was offset in part by lower intangible amortization at the Vermont Operations of approximately \$153,000 due to an intangible that became fully amortized in 2004.

*Research, Development and Engineering Program (RD&E).* The Company's RD&E consists of two types: customer-funded RD&E (U.S. government and other companies) and Company-funded RD&E. Both types of RD&E costs are expensed when incurred.

- Customer-funded RD&E costs incurred, primarily related to the DARPA Contract and the NAVAIR Contract, are included in "Costs of Revenues" and totaled \$2,877,012 and \$3,993,862 for the fiscal years ended December 31, 2005 and 2004, respectively. The decrease in customer-funded RD&E expenditures for 2005 consists of a decrease of \$1,688,653 related to the DARPA Contract and decreases in two contracts completed in 2004 at the Vermont Operations of \$680,957. These decreases were offset in part by an increase in 2005 of \$1,252,760 related to the NAVAIR contract.
- Company-funded RD&E costs associated with product development are shown in "Operating Expenses" and totaled \$3,395,683 and \$1,722,329 for the fiscal years ended December 31, 2005 and 2004, respectively. The increase in 2005 is primarily due to product development for our XRM, XNP and BioSentry™ new products.

Total RD&E expenditures for 2005 and 2004 were \$6,272,695 and \$5,716,191, respectively. Total RD&E expenditures as a percentage of revenues were 68.5% and 56.8% for the years ended December 31, 2005 and 2004, respectively. The RD&E expenditures as a percentage of revenues have been historically higher than that for a commercially oriented company because much of the Company's revenues have been R&D contract revenues. In addition, in 2005 and 2004, the Company's revenues have been declining and the Company-funded RD&E costs have increased as a result of the Company's commercialization efforts.

During 2005 and 2004, JMAR has been implementing its strategy to balance, diversify and expand its revenue base through new product development and to acquire or license products, technologies or businesses. Specifically, during the second quarter of 2004 the Company started product development on the BioSentry™ product line; and during the third quarter of 2004, the Company initiated the product development of the X-ray Microscope and X-ray Nano Probe product lines. As a result, Company-funded RD&E increased significantly in 2005 and the Company expects Company-funded RD&E to continue to be significant in 2006 as the Company brings its new products to market.

*Discontinued Operations.* The loss from operations of discontinued operations of \$214,893 for the year ended December 31, 2004 is related to the standard semiconductor products business, primarily associated with the lease of the Irvine facility. Prior to December 31, 2001, as the level of business expected from its standard semiconductor products business did not materialize,

the Company decided to take action to sublease its Irvine facility and move the standard semiconductor products business into a smaller facility and recorded a reserve against the Irvine facility lease. Subsequently, this business was discontinued. The lease provided for rent and related expenses of approximately \$36,000 per month through August 2005. In June 2004, the Company subleased the facility; however, the subtenant defaulted on the sublease in January 2005. The lease expired in August 2005 and the Company does not anticipate any further losses associated with the Irvine facility.

*Interest and Other Expense.* Interest and other expense for the years ended December 31, 2005 and 2004 was \$261,151 and \$641,460, respectively. Interest and other expense is lower for 2005 versus 2004 primarily due to conversions of the Company's Working Capital Line into common stock in the first quarter of 2004 which resulted in an acceleration of amortization of the discount related to the beneficial conversion feature and fair value of warrants issued in connection with the Working Capital Line. Included in interest expense for the years ended December 31, 2005 and 2004 is \$206,821 and \$442,029, respectively, related to the beneficial conversion feature and fair value of warrants issued in connection with the Working Capital Line described below. These amounts were charged to expense using the effective yield method over the period from the issuance date to the earlier of the maturity date of the debt or the conversion dates.

*Preferred Stock Dividends.* Included in the loss applicable to common stockholders in the Consolidated Statements of Operations for the years ended December 31, 2005 and 2004 are preferred stock dividends of \$2,091,232 and \$2,247,876, respectively. The preferred stock dividend amounts for the years ended December 31, 2005 and 2004 consist of \$571,529 and \$341,372, respectively, of preferred stock dividends paid or payable in cash and \$1,139,206 and \$1,906,504, respectively, related to the discount representing the beneficial conversion feature of the redeemable convertible preferred stock, the fair value of warrants issued in connection with the preferred stock and the difference between the fair value of the preferred stock immediately prior to and after the 2005 Amendment. In addition, the 2005 amount includes \$380,497 related to the excess of the fair value of the consideration issued by the Company for the redemption of the Series E Preferred Stock over its carrying amount.

#### *Year Ended December 31, 2004 Compared to Year Ended December 31, 2003*

*Revenues.* Total revenues for the years ended December 31, 2004 and 2003 were \$10,059,839 and \$17,296,508, respectively, the majority of which were contract revenues. Revenues for 2004 and 2003 were as follows:

	2004	2003
Research Division	\$ 3,575,633	\$ 6,206,123
Vermont Operations	2,785,929	6,561,372
Microelectronics Division	3,698,277	4,529,013
Sensor Products Group	<u>10,059,839</u>	<u>17,296,508</u>

The decrease in revenues for the year ended December 31, 2004 compared to the year ended December 31, 2003 was primarily attributable to a decrease of \$2,166,775 in the NAVAIR Contract revenues at the Vermont Operations due to the delay in receipt of funding on that contract, a decrease of \$3,608,489 in revenues of the Research Division and Vermont Operations related to the DARPA Contract, a decrease of \$1,027,533 related to two contracts at the Vermont Operations that have been completed and a decrease of \$619,994 in contract revenues at the Microelectronics Division related to reduced equipment installations under the GDAIS Contract in 2004. The lower revenues for the DARPA contract in 2004 is primarily related to lower funding in 2004 and 2003 compared to 2002, resulting in a lower DARPA Contract backlog entering 2004 compared to fiscal year 2003, exacerbated by the fact that no additional program funding related to the DARPA Contract was included in the U.S. Government fiscal year 2005 budget and no further funding under this contract is expected beyond the funds received in February 2005. Revenues for the three months ended December 31, 2004 and 2003 were \$1,755,289 and \$3,570,210, respectively. Despite the lower revenues for the three months ended December 31, 2004 compared to the corresponding period in 2003, receivables at December 31, 2004 were \$3,090,922 compared to \$2,802,025 at December 31, 2003. The higher than expected receivables at December 31, 2004 is due to 1) the continued delay in receipt of funding for the DARPA Contract (\$3.5 million was received in February 2005); 2) the timing of billings for the NAVAIR Contract in 2004 compared to 2003 and because of advanced billings allowed under the NAVAIR Contract in 2004 (resulting in billings in excess of costs incurred at December 31, 2004); and 3) the timing of billings at the Microelectronics Division.

*Losses.* The net loss for the years ended December 31, 2004 and 2003 was \$(5,632,140) and \$(3,278,463), respectively. The loss from continuing operations for those same periods was \$(5,417,247) and \$(2,086,714), respectively, while the loss from operations for those same periods was \$(4,933,931) and \$(1,589,982), respectively. Included in the net loss for the years ended December 31, 2004 and 2003 is a loss from discontinued operations of \$214,893 and \$1,191,749, respectively. Included in the net loss and loss from

operations for the years ended December 31, 2004 and 2003 are costs associated with product development (see further discussion below) of \$1,722,329 and \$529,039, respectively, and asset write-downs of \$191,575 and \$346,060, respectively. Included in the net loss and loss from continuing operations for the years ended December 31, 2004 and 2003 is a non-cash interest charge of \$442,029 and \$289,063, respectively (see "Interest and Other Expenses" below).

*Gross Margins.* Gross margins for the fiscal years ended December 31, 2004 and 2003 were 19.9% and 22.9%, respectively. The Company's margins are low because the majority of its revenues are from contract revenues, which inherently generate lower margins than product revenues. The primary decrease in the gross margin for the year ended December 31, 2004 compared to the prior year is due to a contract reserve of \$316,000 for the year ended December 31, 2004 related to a contract at the Vermont Operations and inventory reserves of approximately \$168,000 for the year ended December 31, 2004, also at the Vermont Operations. These reductions were offset in part by lower revenues in 2004 on the lower margin NAVAIR Contract (i.e., the lower margin NAVAIR Contract represented a greater percentage of revenues in 2003). The low margins on the NAVAIR Contract were due to the high subcontract component of that contract and the Company's absorption of some of the costs incurred due to limited funding on that contract.

*Selling, General and Administrative (SG&A).* SG&A expenses for the fiscal years ended December 31, 2004 and 2003 were \$5,018,767 and \$4,679,510, respectively. The increase in SG&A expenses for 2004 was primarily attributable to 1) SG&A costs of the Sensor Products Group formed in 2004 of \$415,708; 2) higher accounting and insurance costs of \$219,332; and 3) higher payroll related costs of \$269,159. These increases were offset in part by a reduction in SG&A costs of the Vermont Operations due to staff and other cost reductions of \$598,585.

*Research, Development and Engineering Program (RD&E).* The Company's RD&E consists of two types: customer-funded RD&E (U.S. government and other companies) and Company-funded RD&E. Both types of RD&E costs are expensed when incurred.

- Customer-funded RD&E costs incurred, primarily related to the DARPA Contract and the NAVAIR Contract, are included in "Costs of Revenues" and totaled \$3,993,862 and \$9,606,745 for the fiscal years ended December 31, 2004 and 2003, respectively. The decrease in customer-funded RD&E expenditures for 2004 consists of a decrease of \$2,502,495 related to the NAVAIR Contract, a decrease of \$2,398,252 related to the DARPA Contract and decreases in two contracts completed in 2004 at the Vermont Operations of \$712,136.
- Company-funded RD&E costs associated with product development are shown in "Operating Expenses" and totaled \$1,722,329 and \$529,039 for the fiscal years ended December 31, 2004 and 2003, respectively. The increase in 2004 is due to product development started in 2004 for our BioSentry™, XRM and XNP new products.

Total RD&E expenditures for 2004 and 2003 were \$5,716,191 and \$10,135,784, respectively. Total RD&E expenditures as a percentage of revenues were 56.8% and 58.6% for the years ended December 31, 2004 and 2003, respectively. The RD&E expenditures as a percentage of revenues have been historically higher than that for a commercially oriented company because much of the Company's revenues has been R&D contract revenues.

Since 2004, JMAR has been implementing its strategy to balance, diversify and expand its revenue base through new product development and to acquire or license products, technologies or businesses. Specifically, during the second quarter of 2004 the Company started product development on the BioSentry™ product line, and during the third quarter of 2004, the Company initiated the product development of the X-ray Microscope and X-ray Nano Probe product lines.

*Discontinued Operations.* The loss from discontinued operations of \$214,893 for the year ended December 31, 2004 is related to the standard semiconductor products business, primarily associated with the lease of the Irvine facility. The loss from discontinued operations of \$1,396,749 for the year ended December 31, 2003 includes \$457,413 related to the standard semiconductor products business, primarily associated with the lease of the Irvine facility and legal costs for disputed liabilities of that business offset in part by gains from settlement of certain liabilities. In addition, for 2003, the loss from discontinued operations includes \$939,336 related to JMAR Precision Systems, Inc. (JPSI). In July 2003, the Company sold JPSI to several private investors. The results of operations of JPSI for 2003 through the sale date are reported in discontinued operations in 2003. The decrease in the loss from discontinued operations is due to the sale of JPSI in July 2003. The gain on disposal of discontinued operations of \$205,000 for the year ended December 31, 2003 relates to the sale of JPSI.

*Interest and Other Expense.* Interest and other expense for the years ended December 31, 2004 and 2003 was \$641,460 and \$559,957, respectively. Interest and other expense is higher for 2004 versus 2003 primarily due to the financing transactions the



Company entered into in late March 2003 and January 2004 (see "Consolidated Liquidity and Financial Condition" below). Included in interest expense for the years ended December 31, 2004 and 2003 is \$442,029 and \$289,063, respectively, related to the beneficial conversion feature and fair value of warrants issued in connection with the Working Capital Line described below. These amounts were charged to expense using the effective yield method over the period from the issuance date to the earlier of the maturity date of the debt or the conversion dates.

*Preferred Stock Dividends.* Included in the loss applicable to common stock in the Statement of Operations for the years ended December 31, 2004 and 2003 are preferred stock dividends of \$2,247,876 and \$942,903, respectively. The amounts for the years ended December 31, 2004 and 2003 represents \$341,372 and \$78,581, respectively, of preferred stock dividends paid or payable in cash and \$1,906,504 and \$864,322, respectively, related to the discount representing the beneficial conversion feature of the redeemable convertible preferred stock and the fair value of warrants issued in connection with the preferred stock.

## **Liquidity and Financial Condition**

*General.* Cash and cash equivalents at December 31, 2005 was \$5,490,789. In 2005 and 2004, we funded our operations primarily from the sale of preferred and common stock. The decrease in cash and cash equivalents during the year ended December 31, 2005 of \$1,108,799 resulted primarily from cash used in continuing operations of \$4,245,529 (primarily related to operating losses offset in part by a reduction in accounts receivable, an increase in accounts payable and accruals and lease incentives received from the Company's landlords), payment of preferred stock dividends of \$669,359, cash used in discontinued operations of \$396,089, preferred stock redemptions of \$233,333 and capital expenditures of \$1,225,734 (\$546,000 of which was paid by the Company's landlords), offset in part by net proceeds from the issuances of common stock of \$5,813,653.

JMAR will continue to use cash in 2006 for 1) product research and development efforts; 2) corporate costs, primarily related to the cost of being a public company; 3) preferred stock dividends; and 4) other working capital needs. As a result of the financing activity discussed below, management believes that the Company has adequate resources to fund working capital requirements and product development through December 31, 2006. Working capital as of December 31, 2005 and 2004 was \$4,036,601 and \$7,180,382, respectively. The decrease in working capital is primarily due to the Company's losses, capital expenditures, preferred stock redemptions and payment of preferred stock dividends, offset in part by net proceeds from the issuance of common stock of approximately \$5.8 million.

*Sales of Common Stock.* On February 1, 2005, the Company entered into a Securities Purchase Agreement and completed the sale of \$4 million of the Company's common stock and warrants to five institutional investors (February Investors). Pursuant to the Securities Purchase Agreement, the Company issued a total of 3,225,807 shares of common stock and warrants to purchase 1,209,679 shares of common stock to the February Investors. The warrants have an exercise price of \$1.73 per share and a term of five years. After expenses of the transaction and the advisor's fee, the Company received net proceeds of approximately \$3,852,000.

As a result of the completion of the February 2005 Offering, the PointSource Investors (see "PointSource License Agreement", below) were offered the right to purchase a total of 53,548 shares of common stock (Additional Shares) and warrants to purchase 20,081 shares of common stock with an exercise price of \$1.73 per share (Additional Warrants) for a total purchase price of \$66,400. In mid-February, 2005, the PointSource Investors purchased the Additional Shares and Additional Warrants for \$66,400.

On December 28, 2005 and January 4, 2006, the Company entered into Securities Purchase Agreements and completed the sale of \$3.63 million of the Company's common stock and warrants to nine institutional investors and four accredited investors (December Investors). Pursuant to the Securities Purchase Agreements, the Company issued a total of 3,025,001 shares of common stock and warrants to purchase 2,117,501 shares of common stock to the December Investors. The warrants have an exercise price of \$1.44 per share and a term of five and one-half years. After expenses of the transaction and the advisor's fee, the Company received net proceeds of approximately \$3.4 million, of which approximately \$1.4 million was received after December 31, 2005 and, accordingly, is not included in the Company's cash and cash equivalents of \$5,490,789 at December 31, 2005.

*Issuances of Preferred Stock.* In 2004 the Company sold the following series of Preferred Stock to Laurus for cash:

<u>Issuance Date</u>	<u>Series</u>	<u>Amount</u>	<u>Dividend</u>	<u>Original Conversion Price</u>
January, 2004	E	\$ 1,500,000(3)	8%	\$ 2.85(1)
February, 2004	F	\$ 2,000,000	Prime (2)	\$ 3.11(1)
February, 2004	G	\$ 2,000,000	Prime (2)	\$ 3.28(1)
February, 2004	H	\$ 4,000,000	Prime (2)	\$ 3.47(1)

- (1) Reduced to \$2.00 pursuant to February 1, 2005 agreement and reduced further pursuant to March 28, 2006 agreement (see below)
- (2) Prime rate at December 31, 2005 was 7.25 percent
- (3) A total of \$500,000 of Series E Preferred Stock was subsequently converted or redeemed

On December 22, 2005, the Company entered into a Securities Purchase Agreement with Laurus whereby in exchange for and in complete cancellation of the \$1,000,000 of the outstanding Series E Preferred Stock, the Company issued 1,041,667 shares of the Company's common stock, valued at a discount to the closing stock price of the Company on December 19, 2005. In addition, the Company issued a warrant for the purchase of 375,000 shares of common stock, with an exercise price of \$1.50, based on 125% of the closing price of the Company's common stock on December 19, 2005. The warrant is not exercisable for the first six months and has a term of five years. The Series E Preferred Stock was redeemable in full in the amount of \$1,000,000 in July 2006, if not previously converted to common stock.

If not previously converted to common stock, the outstanding amount of Series F, G and H Preferred Stock must be redeemed in cash (or it could be redeemed with common stock if the closing market price of the Company's common stock is 118% of the Conversion Price or higher for the 11 trading days prior to the redemption date) at various amounts and dates (see below under "Commitments"). Conversions to equity are offset against the required repayments. Except for the conversion price, the conversion terms of the Series F through H Preferred Stock are the same as the conversion terms of the Working Capital Line (see below).

On February 1, 2005, the Company entered into agreements with Laurus to amend the Company's Series E, F, G and H Convertible Preferred Stock (the 2005 Amendments). The 2005 Amendments provided for 1) the deferral of approximately \$3.8 million in monthly redemption payments, as follows: a) payments of the remaining 12 months of redemption payments (\$83,333 per month plus a 2% fee) for the Series E Preferred Stock were deferred and due in full in July, 2006, and b) the next 18 months of redemption payments due under the Series F, G and H Convertible Preferred Stock (\$150,000 per month plus a 2% fee) were deferred until February, 2007; 2) the grant of a right to the Company to elect to pay the originally scheduled monthly redemption payments with shares of the Company's common stock valued at a 15% discount to the then market price (this provision was eliminated in a subsequent amendment described below); and 3) the reduction in the conversion prices of the Series E-H Preferred Stock (originally ranging from \$2.85 to \$3.47) to \$2.00 per share. The \$150,000 in monthly redemption payments under the Series F-H Preferred Stock were to recommence in August, 2006 until January, 2007, with the balance of approximately \$4.25 million in the stated amount of the Series F-H Preferred Stock due in February, 2007. On October 20, 2005, the Company entered into agreements with Laurus to further amend the Company's Series E, F, G and H Convertible Preferred Stock to 1) delete the provision described above allowing the Company to elect to pay the originally scheduled monthly redemption payments with shares of the Company's common stock, and 2) delete the provision that allowed Laurus to convert the Series E, F, G and H Convertible Preferred Stock at a 20% discount to the then market price upon default of the Series E, F, G and H Convertible Preferred Stock.

On March 28, 2006, the Company issued a new Series I Convertible Preferred Stock to replace \$6,393,980 of the Series F-H Convertible Preferred Stock, leaving \$1,456,020 of the Series G Preferred Stock outstanding. The parties also amended the remaining redemption schedule of the Series G Preferred Stock (the issuance of the Series I and the amendments to the Series G are referred to below as the 2006 Amendments). The 2006 Amendments have the effect of deferring the \$7,850,000 in redemption payments, as follows: a) 6 monthly redemption payments originally commencing August 2006 (\$150,000 per month plus a 2% fee) are deferred one year and reduced to \$122,178 per month; b) \$6,588,314 of the redemption payment originally due February 2007 is deferred until August 2008; and c) the remaining \$528,618 is payable at \$27,822 per month starting February 2007 through August 2008. In consideration for these deferrals, the conversion price for \$6,393,980 of the Series F-H Preferred Stock (previously \$2.00) was reduced to \$1.16 per share. In addition, the exercise price (originally ranging from \$3.42 to \$3.82) of the warrants exercisable into

200,000 shares originally issued in connection with the Series F-H Preferred Stock was reduced to \$1.16. The redemption payments will be reduced to the extent that there are conversions of the Preferred Stock into common stock.

In connection with all of the financing transactions with Laurus (Working Capital Line and Series A-H preferred stock issuances), the Company issued warrants to Laurus to purchase a total of 1,786,375 shares of common stock at prices ranging from \$1.058 to \$5.15 and warrants exercisable into 458,181 shares of common stock at an exercise price of \$0.01 per share.

The shares of common stock issuable to Laurus under all of the preferred stock and warrants described above have been included in registration statements declared effective by the Securities and Exchange Commission or may be sold pursuant to Rule 144, except for the warrants exercisable into 458,181 shares of common stock.

*Working Capital Line.* In March 2003, the Company entered into a Revolving Fixed Price Convertible Note (Working Capital Line) with Laurus. The term of the Working Capital Line expired on March 21, 2006 and was replaced by a new line of credit facility (see below). As of December 31, 2005, there was no amount outstanding under the Working Capital Line. The Working Capital Line allowed the Company to borrow from time-to-time up to 85% of eligible accounts receivable of the Company to a maximum of \$3 million. Advances in excess of this formula were allowed, however, with the consent of Laurus. Laurus could convert any portion of the principal outstanding to common stock at a fixed price per share (Conversion Price) any time the market price of the Company's common stock was in excess of the Conversion Price. The Company could convert a portion of the principal outstanding to common stock at the Conversion Price if the market price of the Company's common stock averaged 118% of the Conversion Price or higher for 22 consecutive trading days. The initial terms of the Working Capital Line provided that after \$2 million of conversions into equity, the Conversion Price would be increased. The Conversion Price initially was \$.92, but was increased to \$2.85 in January 2004 after \$2 million of the Working Capital Line had been converted.

The interest rate on the Working Capital Line was equal to the prime rate (7.25% at December 31, 2005) plus 0.75 percent, subject to a floor of 5.00 percent. Accrued interest is payable monthly. The Working Capital Line required that the Company's quick ratio, as defined, be 0.90 or higher. The quick ratio is defined as the sum of cash and accounts receivable divided by the sum of current liabilities, exclusive of current liabilities of discontinued operations. The Company's quick ratio was 1.77 at December 31, 2005. The term of the Working Capital Line expired March 21, 2006. The available borrowings under the Working Capital Line were approximately \$655,000 at December 31, 2005, all of which was unused at December 31, 2005.

On March 28, 2006, the Company and Laurus replaced the expiring Working Capital Line with a new working capital line (2006 Working Capital Line). The 2006 Working Capital Line is non-convertible and allows the Company to borrow from time-to-time up to 90% of eligible accounts receivable and up to 50% of eligible inventory up to \$500,000, up to an aggregate maximum of \$3 million. The 2006 Working Capital Line has no financial ratio covenants. The interest rate on the 2006 Working Capital Line is equal to the prime rate plus 2 percent.

*Cash Used in Continuing Operations.* Cash used in continuing operations was \$4,245,529 in 2005 compared to \$3,763,107 in 2004. The loss from continuing operations net of non-cash items (depreciation, amortization, debt discount, services received in exchange for common stock or warrants, and asset write-downs) was \$7,107,441 and \$4,070,018 in 2005 and 2004, respectively. The higher use of cash related to the loss from continuing operations net of non-cash items in 2005 is primarily due to higher product development costs in 2005 compared to 2004 of \$1,673,354 and higher SG&A expenses of \$1,689,052 primarily related to the formation of the Sensor Products Group in the quarter ended June 30, 2004. Product development expenditures will continue to be significant in 2006 as the Company brings its new products to market. Helping cash flow from operations was a decrease in accounts receivable in 2005 due to the release in February 2005 of \$3,508,000 in funds related to the Company's DARPA Contract. Also helping cash flow from operations in 2005 was the receipt of \$540,444 (net of \$5,556 of 2005 amortization) in lease incentives from landlords associated with the lease of two facilities in 2005. Helping cash flow from operations in 2004 was an increase in billings in advance of incurring related costs of \$791,587 related to several of the Company's contracts and orders, primarily the NAVAIR Contract related to milestones achieved in December 2004.

*Cash Used in Discontinued Operations.* In 2005, cash used in discontinued operations was \$396,089 compared to \$778,927 in 2004. Cash used in 2005 primarily related to payments related to the Irvine facility. Cash used in 2004 included losses of \$200,568, payments related to the Irvine facility of \$354,754, payment of \$137,500 to a creditor of the discontinued standard chip business, payments of \$73,340 for a note payable related to assets financed by the discontinued standard chip business and legal payments of \$12,765. The Company expects no further cash required for discontinued operations related to the discontinued standard chip business since the lease for the Irvine facility terminated on August 31, 2005.

*Cash Used in Investing Activities.* In 2005, cash used in investing activities, primarily capital expenditures, was \$1,415,586 compared to \$788,596 in 2004. Included in capital expenditures for 2005 is \$546,000 paid by the Company's landlords through lease incentives. The Company expects a decrease in capital expenditures in 2006 due to non-recurring costs incurred in 2005 related to the consolidation and expansion of its three San Diego facilities into one location and the implementation of a new ERP system in 2005 related to the ramp-up of manufacturing at the Vermont Operations.

*Cash Provided by Financing Activities.* In 2005, cash provided by financing activities was \$4,910,961 compared to \$7,675,328 in 2004. Net proceeds from the sale of common stock were \$5,813,653 in 2005. Net proceeds from the sale of preferred stock were \$9,070,870 in 2004. During 2005 and 2004, the Company made preferred stock redemptions of \$233,333 and \$416,667, respectively (see preferred stock Amendments discussed above). Cash paid for preferred stock dividends in 2005 and 2004 was \$669,359 and \$249,760, respectively. In 2004, the Company made note payments of \$868,642, primarily related to the SAL Notes (see Note 8 to Consolidated Financial Statements).

*Stockholders' Equity.* In order to retain our listing on the NASDAQ Capital Market, we are required to maintain (i) stockholders' equity of \$2.5 million, or (ii) market value of common stock of \$35 million. As of December 31, 2005, our stockholders' equity was \$4,555,228. As of April 5, 2006, the market value of our common stock was \$30 million. Although our stockholders' equity is currently in excess of the \$2.5 million minimum requirement to maintain our listing, continued losses without increases in equity could cause us to fall below this NASDAQ requirement, and if the market value of our common stock is below \$35 million at that time, we would be required to come into compliance or face delisting. The failure to maintain our listing on the NASDAQ Capital Market would have an adverse effect on our stock price and our ability to raise funds in the future.

## Commitments

Future minimum annual commitments under contractual obligations, net of sublease income, and deferred compensation as of December 31, 2005 are as follows:

	2006	2007	2008	2009	2010	Thereafter	Total
Leases	\$ 739,412	\$ 715,054	\$ 530,495	\$ 373,797	\$ 371,233	\$ 715,514	\$ 3,445,505
Deferred compensation	267,175	275,297	185,955	56,003	—	—	784,430
	<u>\$ 1,006,587</u>	<u>\$ 990,351</u>	<u>\$ 716,450</u>	<u>\$ 429,800</u>	<u>\$ 371,233</u>	<u>\$ 715,514</u>	<u>\$ 4,229,935</u>

The leases are primarily for office facilities. The deferred compensation is presented at the total amount to be paid, whereas the liability has been discounted for financial reporting purposes.

## Preferred Stock Redemption Obligations

Excluded from the above table are redemption obligations under Series F, G and H Preferred Stock, as amended on February 1, 2005, October 20, 2005 and March 28, 2006. Also excluded from the above table is the Company's \$3 million Working Capital Line, as to which no amounts were outstanding at December 31, 2005. If not previously converted, the Series F through H Preferred Stock, as amended, must be redeemed by the Company as follows:

Description	Gross Amount Outstanding at December 31, 2005	Scheduled Redemptions		
		2007	2008	Total
Series F Preferred	\$ 1,962,500	\$ 187,500	\$ 1,775,000	\$ 1,962,500
Series G Preferred	\$ 1,962,500	354,432	1,608,068	1,962,500
Series H Preferred	\$ 3,925,000	375,000	3,550,000	3,925,000
		<u>\$ 916,932</u>	<u>\$ 6,933,068</u>	<u>\$ 7,850,000</u>

On March 28, 2006, the Company and Laurus issued a new Series I Preferred Stock in replacement of \$6,393,980 of Series F-H, leaving \$1,456,020 of Series G outstanding. See "Liquidity and Financial Condition" above for the scheduled redemptions in effect as of March 28, 2006.

## License Agreements

In January 2005, JMAR and PointSource Technologies, LLC (PointSource) entered into a License Agreement granting the Company an exclusive license covering all PointSource patents and other intellectual property related to the manufacture and sale of

scattered-radiation-based products used to detect or classify microorganisms in water and other media. Pursuant to the License Agreement, PointSource also sold substantially all of its laboratory and engineering room equipment to the Company. The License Agreement provides for the payment by JMAR of a royalty of 2.5% of the net sales of certain "licensed products" for a six year period, with the right to reduce the royalty to 1.25% after four years if we are no longer using the PointSource technology. The "Licensed Products" consist of any scattered-radiation-based products used to detect or classify microorganisms in water (including our BioSentry™ product) and any other product that is within the scope of the licensed PointSource patents. As additional consideration for the License Agreement, we also entered into a Securities Purchase Agreement providing for the issuance to PointSource of 520,000 shares of common stock (PointSource Shares) and warrants (PointSource Warrants) to purchase 333,333 shares of Common Stock (PointSource Warrant Shares), with an exercise price of \$1.38 per share, and a term of 5 years. PointSource was also granted the right to purchase additional shares in an amount equal to 1.66% of the shares sold in certain subsequent issuances by us on the same terms as such issuance. PointSource subsequently assigned this additional purchase right to its affiliates (PointSource Investors), together with 500,000 of the PointSource Shares and all of the PointSource Warrants. The purchase right must be exercised within 20 days after the Company gives notice to the PointSource Investors of the completion of a securities issuance. This purchase right expires in July 2006. The PointSource Investors exercised this purchase right as it related to the February 1, 2005 offering and purchased 53,548 shares of common stock and warrants, to purchase 20,081 shares of common stock with an exercise price of \$1.73.

On February 21, 2005, JMAR and LXT executed a Technology Transfer and License Agreement (License Agreement) with Gregory Quist and David Drake, dba The LXT Group (LXT Group). The License Agreement provides for the transfer to JMAR of certain trademarks and rights to certain designs and data related to the BioSentry™ product, plus the grant of an exclusive, perpetual, worldwide license by LXT to JMAR to use certain technology covered in a pending utility patent application filed by LXT in January, 2005, with the United States Patent & Trademark Office entitled "Continuous On-Line Real-Time Surveillance System." The scope of this license is limited to the use of light scattering for detection of microorganism contamination and other particles in water. In consideration for the transfer of the rights and license of the technology described above, JMAR agreed to pay LXT a royalty equal to two percent (2%) of the gross revenue of any nature arising from the BioSentry™ system used for the detection of microorganisms in water regardless of the technology employed, commencing on the date JMAR receives the first dollar of BioSentry™ revenue (Revenue Start Date) and continuing until the seventh anniversary thereof. The royalty payments are payable on a quarterly basis within 45 days after the end of each quarter. The License Agreement also modified an outstanding \$125,000 loan to provide that it will no longer be secured by the LXT assets and to provide that it shall be satisfied solely from royalty payments generated from revenues received after the third anniversary of the Revenue Start Date and shall be repaid by payment of 50% of such royalty payments until repaid in full (Amended Loan). The Amended Loan accrues interest at the "prime rate" until satisfied or discharged.

On February 10, 2006, JMAR and Colorado State University Research Foundation (CSURF) as agent for Colorado State University entered into a License Agreement for the use of CSURF's discharge pumped soft X-ray laser technology, developed under the auspices of the National Science Foundation's Engineering Research Center for Extreme Ultraviolet Science and Technology. The laser produces high-intensity radiation at a wavelength shorter than any other laser on the market today and complements JMAR's Laser Produced Plasma X-ray source that produces shorter wavelengths still. The License Agreement calls for an up-front payment of \$10,000 on December 31, 2006; a royalty of 3% of net sales for the first \$1 million in net sales and then 2% thereafter; and a minimum annual royalty of \$10,000 starting for calendar years after the year in which the first commercial sales are made. In addition, as part of the License Agreement, the Company agreed to enter into a sponsored research agreement with CSURF valued at \$64,000 to demonstrate the applicability of the technology as a nanoprobe source.

### **Net Operating Loss Carryforward**

At December 31, 2005, the Company had approximately \$58 million of Federal net operating loss carryforwards subject to certain annual limitations, which expire from 2006 through 2025. To the extent the Company has taxable income in the future, these carryforwards may be used by the Company to reduce its cash outlay for taxes.

### **Critical Accounting Policies and Estimates**

Management's Discussion and Analysis of Financial Condition and Results of Operations discusses JMAR's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period.

On an ongoing basis, management evaluates its estimates and judgments, including those related to revenues, goodwill and intangible assets, beneficial conversion feature and warrant valuation, accounts receivable, deferred taxes and stock based compensation. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management believes the following critical accounting policies, among others, affect its more significant judgments and estimates used in the preparation of its consolidated financial statements.

## **Revenues**

For each of the three years ended December 31, 2005, 2004 and 2003, over 90% of the Company's revenues were contract revenues, with the remainder consisting of two BriteLight™ sales, spare parts sales and service. Contract revenues are recognized based on the percentage of completion method wherein income is recognized pro-rata over the life of the contract based on the ratio of total incurred costs to anticipated total costs of the contract. The program manager prepares a statement of work, schedule and budget for each contract. At least quarterly, actual costs are compared to budget and technical progress is compared to the planned schedule. The Company prepares an estimate of costs to complete for each contract at least quarterly. Estimated losses based on this review are fully charged to operations when identified. Actual costs could differ from these estimated costs. Reimbursable or recoverable general and administrative (G&A) costs are charged to G&A expense as incurred.

## **Goodwill and Intangible Assets**

In accordance with FASB Statement No. 142, "Goodwill and Other Intangible Assets," effective January 1, 2002, the Company has established reporting units and applies a two-step fair value approach to evaluating goodwill impairment, using at least an annual assessment. The Company compares the fair value of the business unit with the carrying amount of the assets associated with the business unit. The fair value of each business unit is determined using a risk adjusted discount rate to compute a net present value of estimated future cash flows and a consideration of market capitalization of the Company. The second step measures the amount of the impairment, if any.

Management performed an interim evaluation of goodwill as of June 30, 2004 following notification that no additional funding was included in the Government's fiscal year 2005 budget. A further evaluation of goodwill was performed again as of December 31, 2004 and December 31, 2005. The business units currently identified are Vermont Operations/Research Division, Microelectronics Division and Sensor Products Group. All of the Company's goodwill arose from the acquisition of SAL, Inc. (the predecessor to the Vermont Operations) and is allocated to the Vermont Operations/Research Division business unit. The Research Division and Vermont Operations are viewed as one business unit due to the interrelations of their businesses (i.e., X-ray source related commercialization, including the XRM and XNP products, with the source and technology development coming from the Research Division and the product design, manufacturing engineering, integration, testing and manufacturing performed by the Vermont Operations, as well as the zone plate optics development and manufacturing for the XRM and XNP performed by the Vermont Operations). Additionally, the Vermont Operations will use its core capabilities to perform manufacturing for other products of the Company.

The discounted cash flow analysis is based on a 7-year projection of revenue, operating expenses, capital expenditures, and working capital requirements and a continuity value of 5 times the 7th year cash flow. The discount rate used for the most recent analysis is 30%, taking into account the riskiness of the new products. Sensitivity analysis is also performed to determine the appropriateness of the assumptions used in the discounted cash flow analysis. As a majority of the Company's expected revenues in the future are based on products that are currently under development, the Company estimates the expected revenues based on its current knowledge of the market and our expectations of successfully penetrating those markets. If our future cash flows vary significantly from our assumptions or if our assumptions change we may record an impairment of goodwill.

The market capitalization test is used as a complementary test to the discounted cash flow analysis. The Company estimates its market capitalization based on the average stock price over the preceding year and estimates the three business units' relative contribution to the market value of the Company based on shareholder inquiries, emphasis by the Company in discussions with shareholders and others, and emphasis in formal shareholder communications (i.e., press releases).

Capitalized patent costs are amortized over ten years, and other intangible assets are amortized over not more than five years. Capitalized patent costs are reviewed quarterly for utilization and recoverability.

### **Beneficial Conversion Feature and Warrant Valuation**

In accordance with Financial Accounting Standards Board (FASB) Emerging Issues Task Force Issue (EITF) No. 98-5 and FASB EITF No. 00-27, the Company records a beneficial conversion feature (BCF) related to the issuance of convertible preferred stock and convertible debt that have conversion features at fixed rates that are in the money when issued and records the fair value of warrants issued with those instruments. The BCF for the convertible instruments is recognized and measured by allocating a portion of the proceeds to warrants and as a reduction to the carrying amount of the convertible instrument equal to the intrinsic value of the conversion features, both of which are credited to paid-in-capital. The Company calculates the fair value of warrants issued with the convertible instruments using the Black Scholes valuation method, using the same assumptions used for valuing employee options for purposes of FASB Statement No. 123, except that the contractual life of the warrant is used.

For convertible preferred stock and related warrants, the recorded discount is recognized as a dividend from the date of issuance to the earlier of the redemption dates or the conversion dates using the effective yield method. For convertible debt and related warrants, the recorded discount is recognized as interest expense from the date of issuance to the earlier of the maturity date of the debt or the conversion dates using the effective yield method.

### **Allowances for Doubtful Accounts**

JMAR maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of JMAR's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required. Management reviews delinquent accounts at least quarterly to identify potential doubtful accounts, and together with customer follow-up estimates the amounts of potential losses. Historically, the Company's losses from bad debts have been minimal.

### **Deferred Taxes**

JMAR records a valuation allowance to reduce its deferred tax assets to the amount that management believes is more likely than not to be realized in the foreseeable future, based on estimates of foreseeable future taxable income and taking into consideration historical operating information. In the event management estimates that it will not be able to realize all or part of its net deferred tax assets in the foreseeable future, a valuation allowance is recorded through a charge to income in the period such determination is made. Likewise, should management estimate that it will be able to realize its deferred tax assets in the future in excess of its net recorded asset, an adjustment to reduce the valuation allowance would increase income in the period such determination is made.

### **Stock Option Plans**

The Company accounts for its stock option and warrant plans under APB Opinion No. 25, using the intrinsic value method, under which no compensation cost has been recognized for issuances to employees. Options and warrants issued to non-employees (other than directors) are accounted for based on the fair value of the equity instrument issued. The fair value is calculated based on the Black Scholes pricing model. The resulting value is amortized over the service period. In December 2004, the FASB issued FASB Statement No. 123(R), "Share-Based Payment," (SFAS No. 123(R)) which is a revision of SFAS No. 123 and which supersedes APB Opinion No. 25. Generally, the approach in SFAS No. 123(R) is similar to the approach described in SFAS No. 123. However, SFAS No. 123(R) requires all share-based payments to employees, including grants of stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative. SFAS No. 123(R) will be adopted by the Company starting January 1, 2006. Management anticipates that the impact of adopting SFAS No. 123(R) could be \$800,000 annually for currently outstanding options. This estimate assumes that the number of employee stock options granted in 2006 will be similar to the number granted in the last several years and is subject to change based on the actual number of stock options granted in 2006, the dates on which the grants are made and the share price on the date of grant.

### **Recent Accounting Pronouncements**

In December 2004, the Financial Accounting Standards Board (FASB) issued FASB Statement No. 123(R), "Share-Based Payment," (SFAS No. 123(R)) which is a revision of SFAS No. 123. SFAS No. 123(R) supersedes APB Opinion No. 25, "Accounting for Stock Issued to Employees," and amends FASB Statement No. 95, "Statement of Cash Flows." Generally, the approach in SFAS No. 123(R) is similar to the approach described in SFAS 123. However, SFAS No. 123(R) requires all share-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative. SFAS No. 123(R) will be adopted by the Company starting January 1, 2006. The transition methods of SFAS No. 123(R) include modified prospective and modified retrospective applications. Under the modified retrospective alternative, prior periods may be restated either as of the beginning of the year of adoption or for all periods presented. The modified

prospective method requires that compensation expense be recorded for all unvested stock options at the beginning of the first quarter of adoption of SFAS No. 123(R), while the modified retrospective method would record compensation expense for all unvested stock options beginning with the first period restated. Management is still evaluating the methodology to be used and has not determined the impact on the Company's financial statements in the future. Most likely the Company will use the modified prospective transition method. Based upon the proforma disclosures in Note 2 (n), management anticipates that the impact could be \$800,000 annually for currently outstanding options. This estimate assumes that the number of employee stock options granted in 2006 will be similar to the number granted in the last several years and is subject to change based on the actual number of stock options granted in 2006, the dates on which the grants are made and the share price on the date of grant.

In November 2004, the FASB issued FASB Statement No. 151, "Inventory Costs," an amendment of ARB No. 43, Chapter 4, which is effective for inventory costs incurred during fiscal years beginning after June 15, 2005. The amendments made by SFAS No. 151 will improve financial reporting by clarifying that abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) should be recognized as current-period charges and by requiring the allocation of fixed production overheads to inventory based on the normal capacity of the production facilities. The Company does not believe that the adoption of SFAS No. 151 will have a significant effect on its consolidated financial statements.

In May 2005, the FASB issued FASB Statement No. 154, "Accounting Changes and Error Corrections - a replacement of APB Opinion No. 20 and FASB Statement No. 3" (SFAS No. 154). This Statement replaces APB Opinion No. 20, "Accounting Changes", and FASB Statement No. 3, "Reporting Accounting Changes in Interim Financial Statements", and changes the requirements for the accounting for and reporting of a change in accounting principle. This Statement applies to all voluntary changes in accounting principle. It also applies to changes required by an accounting pronouncement in the unusual instance that the pronouncement does not include specific transition provisions. When a pronouncement includes specific transition provisions, those provisions should be followed. SFAS No. 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005. Therefore, we will adopt the provisions of SFAS No. 154 for our fiscal year beginning January 1, 2006 as applicable. We do not believe that adoption of the provisions of SFAS No. 154 will have a material impact on our consolidated financial statements.

In October 2005, the FASB issued FSP FAS 13-1, "Accounting for Rental Costs Incurred during a Construction Period", which addresses the accounting for rental costs associated with operating leases that are incurred during a construction period. This FSP requires that rental costs associated with ground or building operating leases incurred during a construction period be recognized as rental expense and included in income from continuing operations. The guidance in this FSP shall be applied to the first reporting period beginning after December 15, 2005, with early adoption permitted. The Company does not expect adoption to have a significant impact on its consolidated financial statements.



## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders  
JMAR Technologies, Inc.:

We have audited the accompanying consolidated balance sheets of JMAR Technologies, Inc. (a Delaware corporation) as of December 31, 2005 and 2004, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2005. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of JMAR Technologies, Inc. as of December 31, 2005 and 2004, and the consolidated results of its operations and its consolidated cash flows for each of the three years in the period ended December 31, 2005, in conformity with accounting principles generally accepted in the United States of America.

/s/ GRANT THORNTON LLP

Irvine, California  
April 6, 2006

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED BALANCE SHEETS**  
**As of December 31, 2005 and 2004**

	<u>2005</u>	<u>2004</u>
<b>ASSETS</b>		
Current Assets:		
Cash and cash equivalents	\$ 5,490,789	\$ 6,599,588
Accounts receivable	1,640,369	3,090,922
Inventories	435,905	335,336
Prepaid expenses and other	489,691	925,943
Total current assets	<u>8,056,754</u>	<u>10,951,789</u>
Property and equipment, net	1,756,452	879,012
Intangible assets, net	1,708,038	537,191
Other assets	380,768	642,174
Goodwill	4,415,932	4,415,932
<b>TOTAL ASSETS</b>	<u><b>\$ 16,317,944</b></u>	<u><b>\$ 17,426,098</b></u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current Liabilities:		
Accounts payable	\$ 1,393,272	\$ 943,027
Accrued liabilities	574,652	673,869
Accrued payroll and related costs	914,195	731,718
Billings in excess of cost incurred	774,675	861,383
Deferred rent	201,008	—
Current portion of notes payable and other liabilities	162,351	145,019
Current liabilities of discontinued operations, including notes payable	—	416,391
Total current liabilities	<u>4,020,153</u>	<u>3,771,407</u>
Notes payable and other long-term liabilities, net of current portion	773,222	465,492
Redeemable convertible preferred stock, 785,000 shares issued and outstanding as of December 31, 2005 and 908,333 shares issued and outstanding as of December 31, 2004, net of unamortized discount of \$880,659 and \$996,059, respectively	6,969,341	8,087,274
Commitments and contingencies	—	—
Stockholders' equity:		
Preferred stock, \$.01 par value; 5,000,000 shares authorized; 785,000 issued and outstanding as of December 31, 2005 included in redeemable convertible preferred stock above, and 908,333 issued and outstanding as of December 31, 2004	—	—
Common stock, \$.01 par value; 80,000,000 shares authorized; 38,823,158 shares issued and outstanding as of December 31, 2005 and 31,376,735 shares issued and outstanding as of December 31, 2004	388,231	313,767
Additional paid-in capital, net of stock subscription receivable of \$855,001	79,589,931	70,087,057
Accumulated deficit	<u>(75,422,934)</u>	<u>(65,298,899)</u>
Total stockholders' equity	<u>4,555,228</u>	<u>5,101,925</u>
<b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>	<u><b>\$ 16,317,944</b></u>	<u><b>\$ 17,426,098</b></u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated balance sheets.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
**For the Years Ended December 31, 2005, 2004 and 2003**

	2005	2004	2003
Revenues	\$ 9,163,520	\$ 10,059,839	\$ 17,296,508
Costs of revenues	<u>6,784,959</u>	<u>8,061,099</u>	<u>13,331,881</u>
Gross profit	<u>2,378,561</u>	<u>1,998,740</u>	<u>3,964,627</u>
Operating expenses:			
Selling, general and administrative	6,707,819	5,018,767	4,679,510
Research and development	3,395,683	1,722,329	529,039
Asset write-downs	<u>218,232</u>	<u>191,575</u>	<u>346,060</u>
Total operating expenses	<u>10,321,734</u>	<u>6,932,671</u>	<u>5,554,609</u>
Loss from operations	(7,943,173)	(4,933,931)	(1,589,982)
Interest and other income	171,521	158,144	63,225
Interest and other expense	<u>(261,151)</u>	<u>(641,460)</u>	<u>(559,957)</u>
Loss from continuing operations	(8,032,803)	(5,417,247)	(2,086,714)
Discontinued operations:			
Loss from operations of discontinued operations	—	(214,893)	(1,396,749)
Gain on disposal of discontinued operations	<u>—</u>	<u>—</u>	<u>205,000</u>
Net loss	(8,032,803)	(5,632,140)	(3,278,463)
Deemed preferred stock dividends	<u>(2,091,232)</u>	<u>(2,247,876)</u>	<u>(942,903)</u>
Loss applicable to common stockholders	<u>\$ (10,124,035)</u>	<u>\$ (7,880,016)</u>	<u>\$ (4,221,366)</u>
Basic and diluted loss per share:			
Loss per share from continuing operations	\$ (0.29)	\$ (0.25)	\$ (0.12)
Loss per share from discontinued operations	<u>—</u>	<u>(0.01)</u>	<u>(0.04)</u>
Basic and diluted loss per share applicable to common stockholders	<u>\$ (0.29)</u>	<u>\$ (0.26)</u>	<u>\$ (0.16)</u>
Shares used in computation of basic and diluted loss per share	<u>34,924,561</u>	<u>30,758,689</u>	<u>25,618,296</u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements of operations.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
**For the Years Ended December 31, 2005, 2004 and 2003**

	<u>Common Stock</u>		<u>Preferred Stock</u>		<u>Additional</u>	<u>Accumulated</u>	<u>Total</u>
	<u>Shares</u>	<u>Amount</u>	<u>Shares</u>	<u>Amount</u>	<u>Paid-in</u>	<u>Deficit</u>	<u>Equity</u>
Balance, December 31, 2002	23,852,024	\$ 238,520	—	\$ —	\$ 56,636,991	\$ (53,197,517)	\$ 3,677,994
Issuance of stock and warrants for services	11,026	110	—	—	42,512	—	42,622
Issuance of common stock from preferred stock conversions (net of costs of \$46,267)	2,272,727	22,727	—	—	1,931,006	—	1,953,733
Issuance of common stock from working capital line conversions	1,275,000	12,750	—	—	1,160,250	—	1,173,000
Beneficial conversion feature of preferred stock and working capital line, and fair value of warrants	—	—	—	—	2,262,240	—	2,262,240
Issuance of common stock and warrants for cash	100,000	1,000	—	—	99,000	—	100,000
Stock issued upon exercise of warrant	144,068	1,441	—	—	288,136	—	289,577
Preferred stock dividends	—	—	—	—	—	(942,903)	(942,903)
Net loss	—	—	—	—	—	(3,278,463)	(3,278,463)
Balance, December 31, 2003	27,654,845	276,548	—	—	62,420,135	(57,418,883)	5,277,800
Issuance of stock and warrants for services	11,604	117	—	—	141,966	—	142,083
Issuance of common stock from preferred stock conversions (net of costs of \$96,467)	2,003,205	20,032	—	—	3,383,501	—	3,403,533
Issuance of common stock from working capital line conversions	1,048,913	10,489	—	—	1,244,011	—	1,254,500
Beneficial conversion feature of preferred stock and working capital line, and fair value of warrants	—	—	—	—	1,772,225	—	1,772,225
Issuance of common stock related to SAL earn-out	593,787	5,938	—	—	986,335	—	992,273
Repurchase of stock	(7,552)	(76)	—	—	(17,671)	—	(17,747)
Stock issued upon exercise of options	71,933	719	—	—	156,555	—	157,274
Preferred stock dividends	—	—	—	—	—	(2,247,876)	(2,247,876)
Net loss	—	—	—	—	—	(5,632,140)	(5,632,140)
Balance, December 31, 2004	31,376,735	313,767	—	—	70,087,057	(65,298,899)	5,101,925
Issuance of stock and warrants for services	40,538	405	—	—	111,080	—	111,485
Modification to preferred stock terms	—	—	—	—	1,066,803	—	1,066,803
Issuance of common stock and warrants for cash, net of stock subscription receivable of \$855,001 and costs of approximately \$115,000	5,825,189	58,252	—	—	5,755,401	—	5,813,653
Redemption of Series E Preferred Stock	1,041,667	10,417	—	—	1,327,083	—	1,337,500
Stock issued upon exercise of options	19,029	190	—	—	(190)	—	—
Issuance of common stock and warrant related to PointSource license	520,000	5,200	—	—	1,242,697	—	1,247,897
Preferred stock dividends	—	—	—	—	—	(2,091,232)	(2,091,232)
Net loss	—	—	—	—	—	(8,032,803)	(8,032,803)
Balance, December 31, 2005	<u>38,823,158</u>	<u>\$ 388,231</u>	<u>—</u>	<u>\$ —</u>	<u>\$ 79,589,931</u>	<u>\$ (75,422,934)</u>	<u>\$ 4,555,228</u>

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements of stockholders' equity.

**JMAR TECHNOLOGIES, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**For the Years Ended December 31, 2005, 2004 and 2003**

	2005	2004 (Revised, see Note 2o)	2003 (Revised, see Note 2o)
Cash flows from operating activities:			
Loss from continuing operations	\$ (8,032,803)	\$ (5,417,247)	\$ (2,086,714)
Adjustments to reconcile loss from continuing operations to net cash used in continuing operations:			
Depreciation, amortization and debt discount	585,685	1,013,571	938,718
Services received in exchange for common stock or warrants	121,445	142,083	42,622
Asset write-downs	218,232	191,575	346,060
Change in assets and liabilities:			
Accounts receivable	1,450,553	(288,897)	92,368
Inventories	(100,569)	18,597	82,315
Prepaid expenses and other	461,549	(475,924)	(133,233)
Customer deposits	—	—	(832,607)
Billings in excess of costs incurred	(86,708)	791,587	(853,698)
Lease incentives received from landlords	540,444	—	—
Accounts payable and accrued liabilities	596,643	261,548	(1,175,069)
Net cash used in continuing operations operating activities	(4,245,529)	(3,763,107)	(3,579,238)
Loss from discontinued operations	—	(214,893)	(1,191,749)
Changes in net assets and liabilities of discontinued operations	(358,645)	(480,323)	(770,887)
Net cash used in discontinued operations	(358,645)	(695,216)	(1,962,636)
Net cash used in operating activities	(4,604,174)	(4,458,323)	(5,541,874)
Cash flows from investing activities:			
Capital expenditures	(1,225,734)	(408,038)	(123,393)
Additions of intangible assets, other assets and goodwill	(172,264)	(359,347)	(272,304)
Payments of note payable of discontinued operations	(37,444)	(83,711)	(53,845)
Payments received on notes receivable	19,856	62,500	—
Net cash used in investing activities	(1,415,586)	(788,596)	(449,542)
Cash flows from financing activities:			
Net proceeds from the issuance of preferred stock	—	9,070,870	5,202,333
Cash payments of preferred stock dividends	(669,359)	(249,760)	(78,479)
Payments of notes payable and other long-term liabilities	—	(868,642)	—
Preferred stock redemptions	(233,333)	(416,667)	—
Repurchase of stock	—	(17,747)	—
Net proceeds from the issuance of common stock	5,813,653	—	1,238,899
Net payments under line of credit	—	—	(285,999)
Decrease in restricted cash	—	—	1,550,000
Net proceeds from the exercise of options and warrants	—	157,274	289,577
Net cash provided by financing activities	4,910,961	7,675,328	7,916,331
Net increase (decrease) in cash and cash equivalents	(1,108,799)	2,428,409	1,924,915
Cash and cash equivalents, beginning of period	6,599,588	4,171,179	2,246,264
Cash and cash equivalents, end of period	\$ 5,490,789	\$ 6,599,588	\$ 4,171,179
Cash paid during the year for interest	\$ 33,596	\$ 62,139	\$ 142,860

**SUPPLEMENTAL DISCLOSURE OF NON-CASH ACTIVITY:** During the year ended December 31, 2005, the Company recorded a discount of \$1,066,803 representing the difference between the fair value of the Convertible Preferred Stock immediately prior to and after the February 1, 2005 amendment (see Note 11). In addition, during the year ended December 31, 2005, the Company recorded \$1,247,897 for the fair value of license rights and certain assets acquired in connection with the license agreement entered into with PointSource Technologies, LLC in January 2005 in exchange for common stock and warrants (see Note 15). Also, during the year ended December 31, 2005, the Company recorded the redemption of the Series E Convertible Preferred Stock with a fair value of consideration issued of \$1,337,500 and a carrying value of \$957,003 (see Note 11). During the years ended December 31, 2004 and 2003, the holder of the Convertible Preferred Stock converted \$3,500,000 and \$2,000,000, respectively, of the preferred stock into 2,003,205 and 2,272,727 shares, respectively, of common stock of the Company. The Company recorded a discount of \$1,772,225 and \$2,251,967 representing the beneficial conversion feature of the redeemable convertible preferred stock and debt and the fair value of warrants issued in connection with the preferred stock and debt transactions in 2004 and 2003, respectively (see Notes 8 and 11). In addition, during the year ended December 31, 2004, \$1,254,500 of the Company's working capital line of credit was converted into 1,048,913 shares of common stock of the Company (see Note 8). Also, during the year ended December 31, 2004, the Company repaid \$364,239 in convertible notes and \$3,034 in accrued interest with the issuance of 118,121 shares of common stock (see Note 8). During the year ended December 31, 2004, the Company issued 475,666 shares of common stock to the former shareholders and creditors of SAL, Inc. in full satisfaction of outstanding earn-outs relating to the acquisition of SAL, Inc. (see Note 11).

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements of cash flows.

**JMAR TECHNOLOGIES, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**December 31, 2005 and 2004**

**1. Description of the Company and Financial Condition**

The accompanying consolidated financial statements include the accounts of JMAR Technologies, Inc. (the "Company" or "JMAR") and its subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

JMAR Technologies, Inc. is a developer of laser-based equipment for imaging, analysis and fabrication at the nano-scale. The Company is developing a diverse portfolio of products with commercial applications while continuing to carry out research and development for the U.S. Government. JMAR is targeting the nanotechnology, bioscience and semiconductor industries with its BriteLight™ Laser; X-ray Light Source; Compact X-ray Microscope — for 3D visualization of single cells and polymers; and its X-ray Nano Probe — enabling interaction, analysis and materials modification at the nano-scale. JMAR also develops, manufactures and markets its BioSentry™ microorganism early warning system and maintains a strategic alliance for the production of the READ chemical sensor for the homeland security, environmental and utility infrastructure industries.

The accompanying consolidated financial statements have been prepared by the Company on a going concern basis, which contemplates the realization of amounts and satisfaction of obligations in the normal course of business. The Company incurred net losses of \$8,032,803 and \$5,632,140 for the years ended December 31, 2005 and 2004, respectively, and losses are expected for the foreseeable future. In addition, our revenues declined to \$9,163,520 from \$10,059,839 for the years ended December 31, 2005 and 2004, respectively. We had negative operating cash flow for the years ended December 31, 2005 and 2004 of \$4,604,174 and \$4,458,323, respectively. Our cash requirements have been and will continue to be significant. We will continue to use cash in 2006 for 1) product development efforts; 2) corporate costs, primarily related to the cost of being a public company; 3) preferred stock dividends; and 4) other working capital needs. If the Company's new products do not result in significant commercial sales, we will need to raise additional funds in order to continue our product development and sales and marketing activities and for other working capital needs. Management believes that it has adequate resources to fund its operations through December 31, 2006. Furthermore, management believes, but cannot assure, that the Company will be able to raise additional working capital through equity or other financings, if required, to additionally fund operations. This belief is derived from the Company's historical access to equity and debt markets.

Management believes that the Company's losses in recent years have resulted from a combination of insufficient contract revenue generated earnings to support the Company's new product development and commercialization work, the time necessary for it to begin generating significant revenue from those new products, and the significant administrative cost of being a small public company. Management has developed an operating plan to manage costs in line with estimated revenues for fiscal year 2006, including contingencies for cost reductions if projected revenue growth is not fully realized. There can be no assurance that projected revenue growth will occur or that the Company will successfully implement its plans. Additionally, if the Company requires additional financing to meet its working capital needs, there can be no assurance that suitable financing will be available on acceptable terms, on a timely basis, or at all.

**2. Summary of Significant Accounting Policies**

*a. Cash and Cash Equivalents*

The Company defines cash and cash equivalents to include cash on hand and cash invested in short-term securities that have original maturities of less than 90 days.

*b. Fair Value of Financial Instruments*

The carrying value of certain of the Company's financial instruments, including accounts receivable, accounts payable and accrued expenses, approximates fair value due to their short maturities.

*c. Pervasiveness of Estimates*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of

contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

*d. Inventories*

Inventories are carried at the lower of cost, on the first-in, first-out basis, or market and are comprised of materials, direct labor and applicable manufacturing overhead. Quarterly, any known excess and/or obsolete inventory, based on changes in the business or other factors, are evaluated and the reserve increased accordingly, or inventory is written down to reflect its new cost basis. Once written down, the carrying value of inventory is not increased.

*e. Income Taxes*

The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards (SFAS) No. 109, "Accounting for Income Taxes." Under the asset and liability method of SFAS No. 109, deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases.

Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Under SFAS No. 109, the effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

JMAR records a valuation allowance to reduce its deferred tax assets to the amount that management believes is more likely than not to be realized in the foreseeable future, based on estimates of foreseeable future taxable income and taking into consideration historical operating information. In the event management estimates that it will not be able to realize all or part of its net deferred tax assets in the foreseeable future, a valuation allowance is recorded through a charge to income in the period such determination is made. Likewise, should management estimate that it will be able to realize its deferred tax assets in the future in excess of its net recorded asset, an adjustment to reduce the valuation allowance would increase income in the period such determination is made.

*f. Property and Equipment*

Property and equipment are recorded at cost. Depreciation and amortization are provided over the asset's estimated useful life of three to ten years, using the straight-line method. Maintenance and repairs are expensed as incurred. Costs capitalized for self-constructed assets include direct material, labor and applicable overhead. Leasehold improvements are amortized over the shorter of the asset's estimated useful life or the life of the related lease.

*g. Goodwill and Other Intangible Assets*

In accordance with FASB Statement No. 142, "Goodwill and Other Intangible Assets," the Company has established reporting units and applies a two-step fair value approach to evaluating goodwill impairment, using at least an annual assessment. The Company compares the fair value of the business unit with the carrying amount of the assets associated with the business unit. The fair value of each business unit is determined using a risk adjusted discount rate to compute a net present value of estimated future cash flows and a consideration of market capitalization of the Company. The second step measures the amount of the impairment, if any.

Management performed an interim evaluation of goodwill as of June 30, 2004 following notification that no additional funding was included in the Government's fiscal year 2005 budget. A further evaluation of goodwill was performed again as of December 31, 2004 and December 31, 2005. The business units currently identified are Vermont Operations/Research Division, Microelectronics Division and Sensor Products Group. All of the Company's goodwill arose from the acquisition of SAL, Inc. (the predecessor to the Vermont Operations) and is allocated to the Vermont Operations/Research Division business unit. The Research Division and Vermont Operations are viewed as one business unit due to the interrelations of their businesses (i.e., X-ray source related commercialization, including the XRM and XNP products, with the source and technology development coming from the Research Division and the product design, manufacturing engineering, integration, testing and manufacturing performed by the Vermont Operations, as well as the zone plate optics development and manufacturing for the XRM and XNP performed by the Vermont Operations). Additionally, the Vermont Operations will use its core capabilities to perform manufacturing for other products of the Company.

The discounted cash flow analysis is based on a 7-year projection of revenue, operating expenses, capital expenditures, and working capital requirements and a continuity value of 5 times the 7th year cash flow. The discount rate used for the most recent analysis is 30%, taking into account the riskiness of the new products. Sensitivity analysis is also performed to determine the appropriateness of the assumptions used in the discounted cash flow analysis. As a majority of the Company's expected revenues in the future are based on products that are currently under development, the Company estimates the expected revenues based on its current knowledge of the market and our expectations of successfully penetrating those markets. If our future cash flows vary significantly from our assumptions or if our assumptions change, we may record an impairment of goodwill.

The market capitalization test is used as a complementary test to the discounted cash flow analysis. The Company estimates its market capitalization based on the average stock price over the preceding year and estimates the three business units' relative contribution to the market value of the Company based on shareholder inquiries, emphasis by the Company in discussions with shareholders and others, and emphasis in formal shareholder communications (i.e., press releases).

#### *h. Intangible Assets*

Capitalized patent costs are amortized over ten years, and other intangible assets are amortized over not more than five years. Accumulated amortization of intangible assets was \$967,655 and \$947,091 at December 31, 2005 and 2004, respectively. Capitalized patent costs are reviewed quarterly for utilization and recoverability.

#### *i. Long-Lived Assets*

The Company periodically evaluates the carrying value of its long-lived assets and applies the provisions of SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." Under SFAS No. 144, long-lived assets and certain identifiable assets to be held and used in operations are reviewed for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be fully recoverable. An impairment loss is recognized if the sum of the expected long-term, undiscounted cash flows is less than the carrying amount of the long-lived assets being evaluated. Management believes the carrying value of its long-lived assets does not exceed their estimated net realizable value at December 31, 2005.

The net assets and liabilities of a disposal group classified as held for sale is presented separately in the asset and liability sections of the consolidated balance sheet. The major classes of assets and liabilities classified as held for sale are separately disclosed in Note 9. In accordance with SFAS No. 144, the Company classifies assets held for sale when management commits to a plan of disposal, the disposal group is available for immediate sale and an active plan to locate a buyer has been initiated.

#### *j. Revenues*

For each of the three years ended December 31, 2005, 2004 and 2003, in excess of 90% of the Company's revenues were contract revenues, with the remainder two BriteLight(TM) sales, spare parts sales and service. Contract revenues are recognized based on the percentage of completion method wherein income is recognized pro-rata over the life of the contract based on the ratio of total incurred costs to anticipated total costs of the contract. Actual costs could differ from these estimated costs. Reimbursable or recoverable general and administrative (G&A) costs are charged to G&A expense as incurred. Estimated losses are fully charged to operations when identified.

#### *k. Beneficial Conversion Feature and Warrant Valuation*

In accordance with Financial Accounting Standards Board (FASB) Emerging Issues Task Force Issue (EITF) No. 98-5 and FASB EITF No. 00-27, the Company records a beneficial conversion feature (BCF) related to the issuance of convertible preferred stock and convertible debt that have conversion features at fixed rates that are in-the-money when issued and records the fair value of warrants issued with those instruments. The BCF for the convertible instruments is recognized and measured by allocating a portion of the proceeds to warrants and as a reduction to the carrying amount of the convertible instrument equal to the intrinsic value of the conversion features, both of which are credited to paid-in-capital. The Company calculates the fair value of warrants issued with the convertible instruments using the Black Scholes valuation method, using the same assumptions used for valuing employee options for purposes of SFAS No. 123 (see Note 1n), except that the contractual life of the warrant is used.

For convertible preferred stock and related warrants, the recorded discount is recognized as a dividend from the date of issuance to the earlier of the redemption dates or the conversion dates using the effective yield method. For convertible debt and related warrants, the recorded discount is recognized as interest expense from the date of issuance to the earlier of the maturity date of the debt or the conversion dates using the effective interest yield method.



#### *l. Allowances for Doubtful Accounts*

JMAR maintains allowances for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. If the financial condition of JMAR's customers were to deteriorate, resulting in an impairment of their ability to make payments, additional allowances may be required. Management reviews delinquent accounts at least quarterly, to identify potential doubtful accounts, and together with customer follow-up estimates the amounts of potential losses. Historically, the Company's losses from bad debts have been minimal.

#### *m. Earnings Per Share*

The Company accounts for earnings per share in accordance with SFAS No. 128, "Earnings per Share". Basic earnings per common share were computed by dividing loss applicable to common stock by the weighted average number of shares of common stock outstanding during the year. For the years ended December 31, 2005, 2004 and 2003, the denominator in the diluted loss per share computation was the same as the denominator for basic loss per share due to antidilutive effects of the Company's warrants, stock options, convertible debt and convertible preferred stock. As of December 31, 2005, 2004 and 2003, the Company had shares issuable under outstanding warrants, stock options, convertible debt and convertible preferred stock of 13,738,888, 7,982,506 and 8,124,184, respectively, all of which are antidilutive and were excluded from the computation of diluted loss per share due to the Company's losses.

#### *n. Stock Options*

The Company has adopted the disclosure only requirements of SFAS No. 123, "Accounting for Stock-Based Compensation". Options and warrants issued to non-employees (other than directors) are accounted for based on the fair value of the equity instrument issued. The fair value is computed using the Black Scholes pricing model. The resulting value is amortized over the service period.

The Company accounts for these plans under APB Opinion No. 25, using the intrinsic value method, under which no compensation cost has been recognized for issuance to employees. Had compensation cost for these plans been determined using the fair value method under SFAS No. 123, the Company's loss applicable to common stockholders and loss per share would have been the following pro forma amounts (unaudited):

		2005	2004	2003
Loss applicable to common stockholders:	As Reported	\$ (10,124,035)	\$ (7,880,016)	\$ (4,221,366)
Stock based compensation expense		(541,881)	(816,710)	(1,028,140)
	Pro Forma	<u>\$ (10,665,916)</u>	<u>\$ (8,696,726)</u>	<u>\$ (5,249,506)</u>
Basic and diluted loss per share:	As Reported	\$ (0.29)	\$ (0.26)	\$ (0.16)
Stock based compensation expense		(0.02)	(0.02)	(0.04)
	Pro Forma	<u>\$ (0.31)</u>	<u>\$ (0.28)</u>	<u>\$ (0.20)</u>

The fair value of each option and warrant grant is estimated on the date of grant using the Black Scholes option pricing model with the following weighted-average assumptions used for grants in 2005, 2004 and 2003: risk-free interest rate of approximately 4.27 percent in 2005, 4.41 percent in 2004 and 2.74 percent in 2003; expected dividend yields of 0 percent and expected lives of 6 years. For grants in 2005, 2004 and 2003, the expected volatility used was 102 percent, 255 percent and 275 percent, respectively.

#### *o. Reclassifications and Revisions*

Certain reclassifications have been made to the prior year financial statements to conform with the 2005 presentation. In addition, we have revised our 2004 and 2003 Consolidated Statements of Cash Flows to separately disclose the operating and financing portions of the cash flows attributable to our discontinued operations. We had previously reported these amounts on a combined basis.

#### *p. Recent Accounting Pronouncements*

In December 2004, the Financial Accounting Standards Board (FASB) issued FASB Statement No. 123(R), "Share-Based Payment," (SFAS No. 123(R)) which is a revision of SFAS No. 123. SFAS No. 123(R) supersedes APB Opinion No. 25, "Accounting for Stock Issued to Employees," and amends FASB Statement No. 95, "Statement of Cash Flows." Generally, the approach in SFAS No. 123(R) is similar to the approach described in SFAS 123. However, SFAS No. 123(R) requires all share-based payments to

employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is no longer an alternative. SFAS No. 123(R) will be adopted by the Company starting January 1, 2006. The transition methods of SFAS No. 123(R) include modified prospective and modified retrospective applications. Under the modified retrospective alternative, prior periods may be restated either as of the beginning of the year of adoption or for all periods presented. The modified prospective method requires that compensation expense be recorded for all unvested stock options at the beginning of the first quarter of adoption of SFAS No. 123(R), while the modified retrospective method would record compensation expense for all unvested stock options beginning with the first period restated. Management is still evaluating the methodology to be used and has not determined the impact on the Company's financial statements in the future. Most likely, the Company will use the modified prospective transition method. However, based upon the proforma disclosures in Note 2(n), management anticipates that the impact could be \$800,000 annually for currently outstanding options. This estimate assumes that the number of employee stock options granted in 2006 will be similar to the number granted in the last several years and is subject to change based on the actual number of stock options granted in 2006, the dates on which the grants are made and the share price on the date of grant.

In November 2004, the FASB issued FASB Statement No. 151, "Inventory Costs," an amendment of ARB No. 43, Chapter 4, which is effective for inventory costs incurred during fiscal years beginning after June 15, 2005. The amendments made by SFAS No. 151 will improve financial reporting by clarifying that abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) should be recognized as current-period charges and by requiring the allocation of fixed production overheads to inventory based on the normal capacity of the production facilities. The Company does not believe that the adoption of SFAS No. 151 will have a significant effect on its consolidated financial statements.

In May 2005, the FASB issued FASB Statement No. 154, "Accounting Changes and Error Corrections – a replacement of APB Opinion No. 20 and FASB Statement No. 3" (SFAS No. 154). This Statement replaces APB Opinion No. 20, "Accounting Changes", and FASB Statement No. 3, "Reporting Accounting Changes in Interim Financial Statements", and changes the requirements for the accounting for and reporting of a change in accounting principle. This Statement applies to all voluntary changes in accounting principle. It also applies to changes required by an accounting pronouncement in the unusual instance that the pronouncement does not include specific transition provisions. When a pronouncement includes specific transition provisions, those provisions should be followed. SFAS No. 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005. Therefore, we will adopt the provisions of SFAS No. 154 for our fiscal year beginning January 1, 2006 as applicable. We do not believe that adoption of the provisions of SFAS No. 154 will have a material impact on our consolidated financial statements.

In October 2005, the FASB issued FSP FAS 13-1, "Accounting for Rental Costs Incurred during a Construction Period", which addresses the accounting for rental costs associated with operating leases that are incurred during a construction period. This FSP requires that rental costs associated with ground or building operating leases incurred during a construction period be recognized as rental expense and included in income from continuing operations. The guidance in this FSP shall be applied to the first reporting period beginning after December 15, 2005, with early adoption permitted. The Company does not expect adoption to have a significant impact on its consolidated financial statements.

### **3. Acquisitions**

#### **Semiconductor Advanced Lithography, Inc.**

On August 7, 2001, the Company's wholly owned subsidiary, JMAR/SAL NanoLithography, Inc. (Subsidiary) acquired all of the outstanding equity of Semiconductor Advanced Lithography, Inc. (SAL) in a merger of SAL with and into Subsidiary (Acquisition). SAL (subsequently renamed JMAR/SAL NanoLithography, Inc. or "JSAL") is a provider of XRL stepper systems and the leading developer of CPL systems. Consideration for the Acquisition consisted of an aggregate of 603,051 shares of the Company's common stock valued at \$1.7 million, \$1.2 million in cash and \$1.2 million in notes (SAL Notes). The SAL Notes were repaid in February 2004, plus accrued interest, by retiring a total of \$364,239 in notes and \$3,034 in accrued interest with the issuance of 118,121 shares of common stock valued at \$3.11 per share and repaying the remaining amount of \$835,761 in notes and accrued interest of \$6,961 with cash. The \$3.11 per share value was calculated based on 85 percent of the 5 day average closing prices of the Company's common stock prior to the last day for the SAL Noteholders to accept the offer. This formula was based on negotiations between the Company and the Noteholders' representative. All stock options and warrants issued by SAL which were outstanding immediately prior to the Acquisition were either exercised pursuant to their terms or were terminated. There were no settlements of options or warrants and there was no increase to JMAR's purchase price as a result of the issuance of additional SAL shares upon exercise of the outstanding options and warrants.

The Company accounted for the Acquisition as a purchase and, accordingly, results of operations of JSAL have been included in the consolidated financial statements since August 7, 2001. The allocation of the original purchase price of \$4,297,414 (including transaction costs) is as follows:

Goodwill	\$ 3,790,907
Identifiable intangibles	785,000
Fair value of tangible assets acquired	671,593
Liabilities assumed	<u>(950,086)</u>
	<u>\$ 4,297,414</u>

Under the Merger Agreement entered into in August, 2001 with the former shareholders and creditors of SAL, Inc. (now operating as the Company's Vermont Operations), those persons could have earned up to three contingent earn-out payments upon the satisfaction of certain conditions related to the development and sale of CPL lithography systems. The first earn-out was not achieved by the deadline and, therefore, was not earned by the SAL investors.

Based on the uncertainties of market acceptance of the CPL technology and delays in the completion of the CPL system, which operated to delay the achievement of the second and third earn-outs, on July 9, 2004, the Company sent a letter to former shareholders and creditors (Holders) of SAL, Inc. proposing a final resolution of the second and third earn-outs through payment of a total of \$625,000 in shares of common stock, valued at the average of the closing prices of JMAR's common stock for the five days during the period August 18, 2004 to August 24, 2004. Holders of more than 99 percent of the earn-out interests accepted the Company's offer to receive the final payment of \$625,000 in common stock in full satisfaction of all remaining amounts owed under the Merger Agreement. The additional consideration of \$625,000 is included in goodwill on the accompanying Balance Sheet (see Note 11).

#### 4. Accounts Receivable

At December 31, 2005 and 2004, accounts receivable consisted of the following:

	2005	2004
Billed	\$ 1,240,922	\$ 944,046
Unbilled	399,447	2,146,876
	<u>\$ 1,640,369</u>	<u>\$ 3,090,922</u>

All unbilled receivables at December 31, 2005 are expected to be billed and collected within one year. Payments to the Company for performance on certain U.S. Government contracts are subject to progress payment audits by the Defense Contract Audit Agency (DCAA) and are recorded at the amounts expected to be realized. Included in the unbilled amount is \$23,197 related to withheld fees for prior contracts to be billed pending DCAA audit, \$343,679 related to the normal billing cycle and timing of billings and \$32,571 related to the READ chemical sensor contract with FemtoTrace, Inc. (FemtoTrace) that will be billed upon final acceptance of the alpha units by FemtoTrace. In addition, included in the long-term "other assets" on the accompanying Consolidated Balance Sheet is \$76,838 of withheld fees from the Company's DARPA Contract that it expects to receive upon completion of the contract and final DCAA audit. Included in the unbilled amount for December 31, 2004 was \$1,269,000 related to the Company's contract with DARPA. In February 2005, DARPA released \$3,508,000 in funds related to the Company's DARPA Contract resulting in the billing and collection of the amount that was unbilled at December 31, 2004.

#### 5. Inventories

Inventories are carried at the lower of cost (on the first-in, first-out basis) or market and are comprised of materials, direct labor and applicable manufacturing overhead. At December 31, 2005 and 2004, inventories consisted of the following:

	2005	2004
Raw materials, components and sub-assemblies	\$ 194,539	\$ 88,684
Work-in-process	77,692	245,498
Finished goods and demonstration units	163,674	1,154
	<u>\$ 435,905</u>	<u>\$ 335,336</u>

Work-in-process decreased between 2005 and 2004 due to the completion in 2005 of work performed in 2004 related to two laser system orders received in 2004.

## 6. Property and Equipment

At December 31, 2005 and 2004, property and equipment consisted of the following:

	2005	2004
Equipment and machinery	\$ 2,919,640	\$ 2,751,128
Software	590,446	405,124
Furniture and fixtures	388,234	440,990
Leasehold improvements	<u>862,050</u>	<u>283,218</u>
	4,760,370	3,880,460
Less-Accumulated depreciation	<u>(3,003,918)</u>	<u>(3,001,448)</u>
	<u>\$ 1,756,452</u>	<u>\$ 879,012</u>

Included in leasehold improvements is \$546,000 of gross proceeds for lease incentives the Company received from its landlords. These lease incentives were recorded as deferred rent to be amortized on a straight-line basis to rent expense over the life of the leases. Of the net remaining deferred rent of \$540,444, included in "notes payable and other long-term liabilities" is \$430,444 and the balance of \$110,000 is included in "deferred rent" in current liabilities on the accompany Consolidated Balance Sheet.

## 7. Commitments and Contingencies

### a. Leases

The Company leases its office facilities under various operating leases expiring through October, 2012. Minimum future rental payments for non-cancelable leases as of December 31, 2005, are as follows:

Year Ending December 31,	
2006	\$ 739,410
2007	715,052
2008	530,495
2009	373,796
2010	371,234
Thereafter	<u>715,514</u>
	<u>\$ 3,445,501</u>

Related rent expense was \$696,770, \$1,158,507 and \$1,193,998 for the years ended December 31, 2005, 2004 and 2003, respectively.

### b. Deferred Compensation

Pursuant to an Employment Agreement dated September, 2001 with Dr. Martinez, the Company's former Chairman and Chief Executive Officer, if the Company delivered notice of its intention not to renew or discontinued his status of Chairman or CEO, or both, other than for cause, then Dr. Martinez's employment was to continue for three years at the highest total compensation rate (including bonuses, director fees and similar payments) he had received in any previous 12 month period. This amount was approximately \$375,000 per annum. In such event, the Company also agreed to maintain comparable medical insurance benefits for such three year period.

In May, 2002, Dr. Martinez informed the Board of Directors of his desire to retire. The Board and Dr. Martinez engaged in discussions regarding Dr. Martinez's future role with the Company. In order to set a definite date for the transition to a new CEO, in July, 2002, the Board of Directors exercised the Company's rights under the Employment Agreement to discontinue Dr. Martinez's status as CEO effective August 16, 2002. Following negotiations between Dr. Martinez and the Board, an agreement was reached to restructure this payment obligation to spread the payments over six years to reduce the impact of the original agreement on the Company's cash flow. In consideration for this modification, the Company agreed to provide comparable medical insurance benefits for six years, and modified 942,242 of the outstanding options and warrants held by Dr. Martinez to (1) vest all unvested options and warrants (141,269 options), (2) provide that, for those options that have an expiration date within the next six years, the early termination provision that would otherwise have resulted in the termination of the options and warrants 60 days after termination of his employment was waived, and (3) provide that all remaining options and warrants will expire on the later of August 15, 2008 or 60 days after Dr. Martinez ceases to be a director. Dr. Martinez ceased to be a director effective April 22, 2005. The Company recorded a

charge in 2002 in the amount of \$1,074,324 resulting from this event. The charge includes \$561,517 for the discounted deferred compensation payments over six years, using a discount rate of 30 percent, and \$512,807 for the intrinsic value of Dr. Martinez's options and warrants resulting from the modification of those options and warrants. The Company also has a deferred compensation arrangement with a former employee for amounts withheld by that employee from his pay. The amount of the discounted liability for these two employees included on the accompanying Balance Sheet at December 31, 2005 is \$504,439.

Included in "Selling, general and administrative" in the accompanying Statement of Operations is \$180,023, \$180,126 and \$171,358 in 2005, 2004 and 2003, respectively, for the amortization of the discounts recorded against the deferred compensation obligations. Total deferred compensation obligations for 2006 through 2009 are \$267,175, \$275,297, \$185,955 and \$56,003, respectively. The Company has accounted for these individual deferred compensation arrangements in accordance with Accounting Principles Board Nos. 12 and 21.

## 8. Notes Payable and Other Long-term Obligations

Notes payable and other long-term obligations as of December 31, 2005 and 2004, were as follows:

	2005	2004
Working capital line with Laurus in the amount of \$3,000,000. Advances bear interest at the prime rate (7.25% and 5.25% at December 31, 2005 and 2004, respectively) plus .75%, but not less than 5%. Interest on the line is payable monthly. Advances are secured by all assets of the Company. Borrowings may be converted to common stock	\$ —	\$ —
Lease incentives received from landlords	540,444	—
Deferred compensation, less discount of \$280,000 and \$451,107 at December 31, 2005 and 2004, respectively (see Note 7)	504,439	610,511
	1,044,883	610,511
	(271,661)	(145,019)
Less: Current portion	<u>\$ 773,222</u>	<u>\$ 465,492</u>

In March 2003, the Company entered into a Revolving Fixed Price Convertible Note (Working Capital Line) with Laurus Master Fund (Laurus). The term of the Working Capital line expired on March 21, 2006 and was replaced by a new line of credit facility (see below). As of December 31, 2005 and 2004 there was no amount outstanding under the Working Capital Line. The Working Capital Line allowed the Company to borrow from time-to-time up to 85% of eligible accounts receivable of the Company to a maximum of \$3 million. Advances in excess of this formula are allowed, however, with the consent of Laurus. Laurus could convert any portion of the principal outstanding to common stock at a fixed price per share (Conversion Price) any time the market price of the Company's common stock is in excess of the Conversion Price. The Company could convert a portion of the principal outstanding to common stock at the Conversion Price if the market price of the Company's common stock averaged 118% of the Conversion Price or higher for 22 consecutive trading days. The initial terms of the Working Capital Line provided that after \$2 million of conversions into equity, the Conversion Price would be increased. The Conversion Price initially was \$.92, but was increased to \$2.85 in January 2004 after \$2 million of the Working Capital Line had been converted at which time the Company granted additional warrants for the purchase of 100,000 shares of its common stock. For the year ended December 31, 2004, \$1,254,500 of the Working Capital Line was converted into 1,048,913 shares of common stock (see Note 11).

The interest rate on the Working Capital Line is equal to the prime rate (7.25% at December 31, 2005) plus 0.75 percent, subject to a floor of 5.00 percent. Accrued interest is payable monthly. The Working Capital Line requires that the Company's quick ratio, as defined, be 0.90 or higher. The quick ratio is defined as the sum of cash and accounts receivable divided by the sum of current liabilities, exclusive of current liabilities of discontinued operations. The Company's quick ratio was 1.77 at December 31, 2005. The term of the Working Capital Line expired March 21, 2006 (see below for renewal of the Working Capital Line). The available borrowings under the Working Capital Line were approximately \$655,000 at December 31, 2005, based on the amount of eligible accounts receivable at that date, all of which was unused at December 31, 2005.

On March 28, 2006, the Company and Laurus replaced the Working Capital Line with a new working capital line (2006 Working Capital Line). The 2006 Working Capital Line allows the Company to borrow from time-to-time up to 90% of eligible amounts receivable and up to 50% of eligible inventory up to \$500,000, up to an aggregate maximum of \$3 million. The 2006 Working Capital Line is non-convertible and has no financial ratio covenants. The interest rate on the 2006 Working Capital Line is equal to the prime rate plus 2 percent.

In connection with the Working Capital Line, the Company issued warrants to Laurus to purchase 400,000 and 100,000 shares of common stock in March 2003 and January 2004, respectively, at prices ranging from \$1.06 to \$5.15 and paid fees of \$74,400 in March 2003. In connection with the March 2003 issuance, the Company recorded a discount of \$152,318, representing the intrinsic value of the beneficial conversion feature and a discount of \$250,144, representing the fair value of the 400,000 warrants. For the January 2004 issuance, the Company recorded a discount of \$254,691 representing the intrinsic value of the beneficial conversion feature and a discount of \$248,070, representing the fair value of the 100,000 warrants. The fair value of each warrant grant is estimated on the date of issuance using the Black Scholes pricing model with the following assumptions: risk-free interest rate of 2.7 percent for the 2004 warrant and 4.0 percent for the 2003 warrant; expected dividend yield of 0 percent; expected life of 7 years; and expected volatility of 258 percent for the 2004 warrant and 251 percent for the 2003 warrant. At December 31, 2005, the unamortized discount and fees of \$38,315 was included in "prepaid expenses and other" in the accompanying Consolidated Balance Sheet. The discount is amortized over the remaining life of the Working Capital Line or upon conversion, resulting in \$206,821 and \$442,029 of interest expense for the years ending December 31, 2005 and 2004, respectively. Also included in the discount are other fees paid to Laurus, including annual renewal fees. In connection with the 2006 Working Capital Line, the Company issued two warrants to Laurus to purchase approximately 458,181 shares of common stock at an exercise price of \$0.01 per share and paid fees of \$108,000. Of the 458,181 warrants, 240,000 vest in March 2007 based on the average borrowings under the 2006 Working Capital Line with an exercise price based on the three day average stock price prior to March 28, 2007, but no less than \$1.00. Both warrants expire in March 2016.

The weighted average interest rate on the Laurus Line was 6.2% and 5% for 2005 and 2004. There was no amount outstanding at any time during 2005. The maximum amount outstanding was \$1,319,208 and \$2,485,255 for 2004 and 2003, respectively, and the average amount outstanding was approximately \$39,677 and \$1,263,000 during 2004 and 2003, respectively. The effective interest rate, including the amortization of the beneficial conversion feature and fair value of warrants was 1,322.50 percent and 41.33 percent in 2004 and 2003, respectively. The 2004 effective interest rate was unusually high due to the low amount of borrowings required during 2004 in comparison to the amortization of the non-cash discount related to the Laurus Line.

The convertible notes (SAL Notes) were issued to the former shareholders of SAL. The SAL Notes were repaid in February 2004, plus accrued interest, by retiring a total of \$364,239 in notes and \$3,034 in accrued interest with the issuance of 118,121 shares of common stock valued at \$3.11 per share and repaying the remaining amount of \$835,761 in notes and accrued interest of \$6,961 with cash. The \$3.11 per share value was calculated based on 85 percent of the 5 day average closing prices of the Company's stock prior to the last day for the SAL Noteholders to accept the offer. This formula was based on negotiations between the Company and the Noteholders' representative.

Interest paid for the years ended December 31, 2005, 2004 and 2003 was \$33,596, \$62,139 and \$142,860, respectively.

## **9. Discontinued Operations/Assets Held for Sale**

In the first quarter of 2002, the Company decided to discontinue its standard semiconductor products business. Also, during the second half of 2002, the Company concluded that its precision equipment business (JPSI) did not fit with the strategic direction of the Company and that the markets for that business' products would continue to be slow. Therefore, in December, 2002, the Company decided to initiate the process of selling JPSI and, in July 2003, the Company completed the sale of that business.

The standard semiconductor products business and JPSI have been accounted for in the accompanying consolidated financial statements as discontinued operations.

The loss from operations of discontinued operations of \$214,893 for the year ended December 31, 2004 is related to the former facility of the standard semiconductor products business. The loss from operations of discontinued operations of \$1,396,749 for the year ended December 31, 2003 consists of \$457,413 related to the standard semiconductor products business (primarily associated with the Irvine facility) and legal costs for disputed liabilities of that business offset in part by gains from settlement of certain liabilities. In addition, for 2003, the loss from discontinued operations includes \$939,336 related to JPSI.

In July 2003, the Company sold JPSI to several private investors and recorded a gain of \$205,000. Under the terms of the sale, JMAR received \$500,000 in a combination of cash and promissory notes, and the buyer assumed 14 of the remaining 25 months of JPSI's facility lease. The notes are secured by the assets of JPSI. In addition, all JPSI receivables as of the closing were assigned to JMAR, and JMAR agreed to pay all trade and employee related liabilities existing as of the closing and unknown liabilities, if any. The buyers assumed all other ongoing commitments of JPSI. The results of operations of JPSI for 2003 through the sale date are reported in discontinued operations in 2003.

Prior to December 31, 2001, as the level of business expected from the standard semiconductor products business did not materialize, the Company decided to take action to sublease the Irvine facility and move the standard semiconductor products business into a smaller facility and recorded a reserve of \$547,000 against the Irvine facility lease based on an appropriate discount rate and estimated sublease rental income. The lease provided for rent and related expenses of approximately \$36,000 per month through August 2005. In June 2004, the Company subleased the facility at a substantial reduction from the Company's lease payment, however, the sub-tenant defaulted on the sublease in January 2005. The Company continued to reflect losses through December 31, 2004 on this lease primarily because of changes to the Company's expected sublease income and because of the effect of the discounting of the reserve liability. For the year ended December 31, 2003, changes in the Company's estimates of sublease income resulted in an increase in the facility reserve of \$150,000 and \$300,000, respectively. In the quarter ended June 30, 2004, the Company reduced its reserve by \$112,000 when it sub-leased the facility, but increased the reserve by an equivalent amount at December 31, 2004 when the sub-tenant defaulted. This lease expired in August, 2005.

At December 31, 2005 and December 31, 2004, net liabilities of the assets discontinued and previously held for sale consisted of the following:

	December 31,	
	2005	2004
Current Liabilities:		
Facility lease accrual	\$ —	\$ 275,221
Accounts payable and accruals	—	103,726
Note payable	—	37,444
	<u>\$ —</u>	<u>\$ 416,391</u>

#### 10. Income Taxes

The tax effects of temporary differences that give rise to significant deferred tax assets and liabilities at December 31, 2005 and 2004 are presented below:

	2005	2004
Deferred tax assets:		
Net operating loss carryforwards	\$ 20,753,000	\$ 18,224,000
Capital loss carryforward	6,843,000	6,843,000
Other	1,059,000	1,268,000
Total gross deferred tax assets	28,655,000	26,335,000
Less valuation reserve	(28,655,000)	(26,335,000)
Net deferred tax asset	<u>\$ —</u>	<u>\$ —</u>

The valuation reserve as of December 31, 2005 and 2004 represents deferred tax assets which management believes, based on the Company's history of operating losses, may not be realized in future periods. The valuation allowance was increased by \$2,320,000 and \$6,351,000 in 2005 and 2004, respectively. The capital loss carryforward relates to the sale of JPSSI, can only be applied against capital gains and expires in 2008.

The effective income tax rate for the years ended December 31, 2005, 2004 and 2003 varied from the statutory federal income tax rate as follows:

	2005	2004	2003
Statutory federal income tax rate	(34)%	(34)%	(34)%
State income tax	(6)	(6)	(6)
Benefit recorded due to net operating loss carryforward position	<u>40</u>	<u>40</u>	<u>40</u>
	<u>—%</u>	<u>—%</u>	<u>—%</u>

At December 31, 2005, the Company had Federal net operating loss carryforwards of approximately \$57.7 million that expire from 2006 to 2025. In addition to the capital loss carryforward, the Company has approximately \$2,647,000 of temporary differences that will offset future taxable income subject to the change in ownership limitations discussed below. Also, the Company has approximately \$19.5 million of state net operating loss carryforwards that expire from 2011 to 2015.

Realization of future tax benefits from utilization of the net operating loss carryforwards for income tax purposes is limited by the change in ownership (as defined for Federal Income Tax Reporting Purposes) as a result of the Company's initial public offering in May 1990. As a result of additional financings in 1992 and 1993, additional ownership changes have occurred which restrict the Company's ability to utilize its net operating loss carryforwards and any "built in losses." In addition, the net operating losses of acquired companies are also subject to separate change of ownership limitations. Of the above net operating loss carryforwards, annual limitations of approximately \$695,000 apply to approximately \$2,904,000 of Company and acquired company loss carryforwards. Approximately \$54,788,000 of the net operating loss carryforwards are not subject to annual limitations.

## 11. Equity Transactions

### a. Laurus Preferred Stock and Warrants

In 2004 the Company sold the following series of Preferred Stock to Laurus for cash:

Issuance Date	Series	Amount	Dividend	Original Conversion Price
January, 2004	E	\$ 1,500,000	8%	\$ 2.85(1)
February, 2004	F	2,000,000	Prime (2)	\$ 3.11(1)
February, 2004	G	2,000,000	Prime (2)	\$ 3.28(1)
February, 2004	H	4,000,000	Prime (2)	\$ 3.47(1)
		<u>\$ 9,500,000</u>		

- (1) Reduced to \$2.00 pursuant to February 1, 2005 agreement and reduced to \$1.16 for all of the Series F and H and \$506,480 of the Series G, pursuant to March 28, 2006 agreement.
- (2) Prime rate at December 31, 2005 was 7.25 percent.

On December 22, 2005, the Company entered into a Securities Purchase Agreement with Laurus whereby in exchange for and in complete cancellation (Redemption) of all of the remaining \$1,000,000 of Series E Preferred Stock, the Company issued 1,041,667 shares of the Company's common stock, valued at a discount to the closing stock price of the Company on December 19, 2005. In addition, the Company issued a warrant for the purchase of 375,000 shares of common stock, with an exercise price of \$1.50, based on 125% of the closing price of the Company's common stock on December 19, 2005. The warrant is not exercisable for the first six months and has a term of five years. The Series E Preferred Stock was redeemable in full in the amount of \$1,000,000 in July 2006, if not previously converted to common stock.

As a result of the Redemption, the Company recorded the excess of the fair value of the consideration issued to Laurus (\$1,337,500) over the carrying amount of the Series E Preferred Stock (\$957,003) as preferred stock dividends and an increase in paid-in-capital. The stock issued to Laurus was valued based on a 10 percent discount to market price of JMAR's stock and the warrants were valued based on the Black Scholes model using the following assumptions: risk-free interest rate of 4.18 percent based on estimated yields of 5-year U.S. Treasury Securities; expected dividend yield of 0 percent; expected life of 5 years; and expected volatility of 63 percent. The volatility is based on JMAR's historical stock prices for the past five years, consistent with the expected life of the warrants.

If not previously converted to common stock, the outstanding amount of Series F, G and H Preferred Stock must be redeemed in cash (or it can be redeemed in common stock if the closing market price of the Company's common stock is 118% of the Conversion Price or higher for the 11 trading days prior to the redemption date) at various amounts and dates (see below). Conversions to equity are offset against the required repayments. Except for the conversion price, the conversion terms of the Series F through H Preferred Stock are the same as the conversion terms of the Working Capital Line (see Note 8).

On February 1, 2005, the Company entered into agreements with Laurus to amend the Company's Series E, F, G and H Convertible Preferred Stock (2005 Amendments). The 2005 Amendments provided for 1) the deferral of approximately \$3.8 million in monthly redemption payments, as follows: a) payments of the remaining 12 months of redemption payments (\$83,333 per month plus a 2% fee) for the Series E Preferred Stock were deferred and due in full in July, 2006, and b) the next 18 months of redemption payments due under the Series F, G and H Convertible Preferred Stock (\$150,000 per month plus a 2% fee) were deferred until February, 2007; 2) the grant of a right to the Company to elect to pay the originally scheduled monthly redemption payments with



shares of the Company's common stock valued at a 15% discount to the then market price (this provision was eliminated in a subsequent amendment described below); and 3) the reduction in the conversion prices of the Series E-H Preferred Stock (originally ranging from \$2.85 to \$3.47) to \$2.00 per share. The \$150,000 in monthly redemption payments under the Series F-H Preferred Stock will recommence in August, 2006 until January, 2007, with the balance of approximately \$4.25 million in the stated amount of the Series F-H Preferred Stock due in February, 2007. These redemption payments will be reduced to the extent that there are conversions of the Preferred Stock into common stock. On October 20, 2005, the Company entered into agreements with Laurus to further amend the Company's Series E, F, G and H Convertible Preferred Stock to 1) delete the provision described above allowing the Company to elect to pay the originally scheduled monthly redemption payments with shares of the Company's common stock, and 2) delete the provision that allowed Laurus to convert the Series E, F, G and H Convertible Preferred Stock at a 20% discount to the then market price upon default of the Series E, F, G and H Convertible Preferred Stock.

As a result of the 2005 Amendment, the Company recorded an additional discount representing the difference between the fair value of the Preferred Stock immediately prior to and after the 2005 Amendment of approximately \$1.1 million valued based on the Black Scholes pricing model using the following assumptions: risk-free interest rate of 3.23 percent based on estimated yields of 2-year U.S. Treasury Securities; expected dividend yield of 0 percent; remaining contractual life of 2 years; and expected volatility of 108 percent. The volatility is based on JMAR's historical stock prices for the past two years, consistent with the remaining contractual life of the preferred stock. This amount was recorded during the first quarter of fiscal year 2005 as a reduction of preferred stock and will be amortized to preferred stock dividends over the earlier of the redemption payment period or the conversion dates.

On March 28, 2006, the Company issued a new Series I Convertible Preferred Stock to replace \$6,393,980 of the Series F-H Convertible Preferred Stock, leaving \$1,456,020 of the Series G Preferred Stock outstanding. The parties also amended the remaining redemption schedule of the Series G Preferred Stock (the issuance of the Series I and the amendments to the Series G are referred to below as the 2006 Amendments). The 2006 Amendments have the effect of deferring the \$7,850,000 in redemption payments, as follows: a) 6 monthly redemption payments originally commencing August 2006 (\$150,000 per month plus a 2% fee) are deferred one year and reduced to \$122,178 per month; b) \$6,588,314 of the redemption payment originally due February 2007 is deferred until August 2008; and c) the remaining \$528,618 is payable at \$27,822 per month starting February 2007 through August 2008. In consideration for these deferrals, the conversion price for \$6,393,980 of the Series F-H Preferred Stock (currently \$2.00) was reduced to \$1.16 per share. In addition, the exercise price (originally ranging from \$3.42 to \$3.82) of the warrants exercisable into 200,000 shares originally issued in connection with the Series F-H Preferred Stock was reduced to \$1.16. The redemption payments will be reduced to the extent that there are conversions of the Preferred Stock into common stock. The rights and privileges of the Series I Preferred Stock are the same as the Series F-H Preferred Stock, other than the conversion price and redemption payments.

If not previously converted, the Series F through H Preferred Stock, as amended, must be redeemed by the Company as follows:

Description	Gross Amount Outstanding at December 31, 2005	Scheduled Redemptions		
		2007	2008	Total
Series F Preferred	\$ 1,962,500	\$ 187,500	\$ 1,775,000	\$ 1,962,500
Series G Preferred	\$ 1,962,500	354,432	1,608,068	1,962,500
Series H Preferred	\$ 3,925,000	375,000	3,550,000	3,925,000
		<u>\$ 916,932</u>	<u>\$ 6,933,068</u>	<u>\$ 7,850,000</u>

In connection with all of the above financing transactions with Laurus (Working Capital Line and Series A-H Preferred Stock issuances), the Company issued warrants to Laurus to purchase a total of 1,786,375 shares of common stock at prices ranging from \$1.058 to \$5.15. In addition, on March 28, 2006, Laurus was granted two warrants exercisable into 458,181 shares of common stock at an exercise price of \$0.01 per share. As of March 28, 2006 all of the preferred stock, warrants and Working Capital Line held by Laurus is convertible or exercisable into approximately 9.1 million shares.

As a result of the convertible preferred stock and warrants issued in 2004 and 2003, the Company recorded a discount representing the beneficial conversion feature of the preferred stock and the fair value of the warrants issued of approximately \$1.3 million and \$1.8 million, respectively. The beneficial conversion feature was recognized as a reduction of preferred stock and is amortized to loss applicable to common stockholders over the earlier of the redemption period or the conversion dates. The unamortized discount, including fees and costs, was \$880,659 and \$996,059 at December 31, 2005 and 2004, respectively.

The following table summarizes the preferred stock activity for 2004:

Series	Net Balance at December 31, 2003	Financing						Redemptions	Net Balance at December 31, 2004
		Gross Amount	BCF	Fair Value of Warrants	Fees and Costs	Discount Amortization	Conversions		
C	\$ 875,223	\$ —	\$ —	\$ —	\$ —	\$ 624,777	\$ 1,500,000	\$ —	\$ —
D	1,341,927	—	—	—	—	658,073	2,000,000	—	—
E	—	1,500,000	381,609	218,451	62,000	331,033	—	416,667	752,306
F	—	2,000,000	54,250	144,282	72,062	82,686	—	—	1,812,092
G	—	2,000,000	—	151,571	72,062	68,332	—	—	1,844,699
H	—	4,000,000	—	319,301	144,125	141,603	—	—	3,678,177
	<u>\$ 2,217,150</u>	<u>\$ 9,500,000</u>	<u>\$435,859</u>	<u>\$ 833,605</u>	<u>\$ 350,249</u>	<u>\$ 1,906,504</u>	<u>\$ 3,500,000</u>	<u>\$ 416,667</u>	<u>\$ 8,087,274</u>

The following table summarizes the preferred stock activity for 2005:

Series	Net Balance at December 31, 2004	Amendment Fair Value	Discount Amortization	Redemptions	Net Balance at December 31, 2005
E	\$ 752,306	\$ 79,390	\$ 367,420	\$ 1,040,336	\$ —
F	1,812,092	215,717	189,073	37,500	1,747,948
G	1,844,699	234,696	182,112	37,500	1,754,615
H	3,678,177	537,000	400,601	75,000	3,466,778
	<u>\$ 8,087,274</u>	<u>\$ 1,066,803</u>	<u>\$ 1,139,206</u>	<u>\$ 1,190,336</u>	<u>\$ 6,969,341</u>

The fair value of each warrant grant in 2004 was estimated on the date of issuance using the Black Scholes pricing model with the following assumptions: risk-free interest rate of 2.7 percent; expected dividend yield of 0 percent; expected life of 7 years; and expected volatility of 258 percent to 262 percent. No beneficial conversion feature was recorded on the Series G and H preferred stock as the conversion price was higher than the market price of the Company's common stock at the commitment date.

All of the preferred stock, warrants and the Working Capital Line (Securities) held by Laurus contain provisions that restrict the right of Laurus to convert or exercise its JMAR securities in order to limit its percentage beneficial ownership. If Laurus were to waive these beneficial ownership limitations the Securities would be convertible for or exercisable into more than 4.99% of the outstanding shares of the Company's common stock commencing 75 days after notice of such waiver. However, Laurus has not requested such a waiver. Laurus has also agreed that none of the Securities shall be converted or exercised to the extent that conversion or exercise of the Securities would result in Laurus beneficially owning more than 19.9% of the shares of the Company's common stock (as of various issuance dates of the securities) unless and until the Company obtains stockholder approval of such excess. Excluded from such calculation are all shares issued to Laurus upon conversion of convertible preferred stock or exercise of warrants but no longer owned by Laurus.

Included in the loss applicable to common stock in the accompanying Consolidated Statement of Operations for the years ended December 31, 2005, 2004 and 2003 are preferred stock dividends of \$2,091,232, \$2,247,876 and \$942,903, respectively. The amount for the years ended December 31, 2005, 2004 and 2003 represents \$571,529, \$341,372 and \$78,581, respectively, of preferred stock dividends paid or payable in cash and \$1,139,206, \$1,906,504 and \$864,322, respectively, related to the discount representing the beneficial conversion feature of the redeemable convertible preferred stock, the fair value of warrants issued in connection with the preferred stock, and the difference between the fair value of the preferred stock immediately prior to and after the 2005 Amendment. In addition, the 2005 amount includes \$380,497 related to the excess of the fair value of the consideration issued by the Company for the redemption of the Series E Preferred Stock over its carrying amount.

#### *b. Sales of Common Stock and Warrants*

On February 1, 2005, the Company entered into a Securities Purchase Agreement and completed the sale of \$4 million of the Company's common stock and warrants to five institutional investors (February Investors). Pursuant to the Securities Purchase Agreement, the Company issued a total of 3,255,807 shares of common stock and warrants to purchase 1,209,679 shares of common

stock to the February Investors. The warrants have an exercise price of \$1.73 per share and a term of five years. After expenses of the transaction and the advisor's fee, the Company received net proceeds of approximately \$3,852,000.

As a result of the completion of the February 2005 Offering, certain investors were offered the right to purchase a total of 53,548 shares of common stock (Additional Shares) and warrants to purchase 20,081 shares of common stock with an exercise price of \$1.73 per share (Additional Warrants) for a total purchase price of \$66,400. In mid-February, 2005, these investors purchased the Additional Shares and Additional Warrants for \$66,400.

On December 28, 2005 and January 4, 2006, the Company entered into Securities Purchase Agreements and completed the sale of \$3.63 million of the Company's common stock and warrants to nine institutional investors and four accredited investors (December Investors). Pursuant to the Securities Purchase Agreements, the Company issued a total of 3,025,001 shares of common stock and warrants to purchase 2,117,501 shares of common stock to the December Investors. The warrants have an exercise price of \$1.44 per share and a term of five and one-half years. After expenses of the transaction and advisor's fee, the Company received net proceeds of approximately \$3.4 million, of which approximately \$1.4 million was received after December 31, 2005 and, accordingly, is not included in the Company's cash and cash equivalents of \$5,490,789 at December 31, 2005.

In February 2003, under the Company's Shelf Registration Statement, the Company sold 100,000 shares of its common stock and a warrant for 20,000 shares, exercisable at \$1.25 per share, for gross proceeds of \$100,000.

#### *c. Issuance of Warrants*

A summary of the status of the total number of warrants as of December 31, 2005, 2004 and 2003 and changes during the years then ended is presented in the tables below:

	2005		2004		2003	
	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price
Outstanding at beg. of year	2,268,970	\$ 1.94	1,830,720	\$ 1.42	1,422,643	\$ 2.49
Granted	4,407,308	1.53	440,000	4.09	1,100,000	1.62
Exercised	—	—	(1,750)	1.00	(144,068)	2.01
Forfeited	(25,000)	5.00	—	—	(547,855)	4.45
Outstanding at end of year	<u>6,651,278</u>	1.65	<u>2,268,970</u>	1.94	<u>1,830,720</u>	1.42
Exercisable at end of year	<u>3,937,309</u>		<u>2,240,345</u>		<u>1,780,720</u>	
Weighted average fair value of warrants granted	0.88		2.94		1.19	

A summary of outstanding warrants as of December 31, 2005, the range of exercise prices, the weighted-average exercise price, the weighted-average remaining contractual life, the amount of warrants currently exercisable and the weighted-average exercise price of warrants currently exercisable is as follows:

Range of Exercise Prices	Warrants Outstanding			Warrants Exercisable	
	Number Outstanding at 12/31/05	Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable at 12/31/05	Weighted-Average Exercise Price
\$0.43 to \$0.50	517,470	3.0 Years	\$ 0.43	517,470	\$ 0.43
1.00 to 1.80	5,114,808	5.0	1.47	2,429,464	1.50
2.05 to 2.64	574,000	3.4	2.40	574,000	2.40
3.13 to 3.88	255,000	4.9	3.56	226,375	3.62
5.00 to 5.15	190,000	6.0	5.08	190,000	5.08
\$0.43 to \$5.15	<u>6,651,278</u>			<u>3,937,309</u>	

#### *d. Settlement of SAL Earn-out Obligations*

In August, 2004, holders of more than 99 percent of the SAL earn-out interests (see Note 3) accepted the Company's offer to receive payment of \$625,000 in common stock, valued at the average of the closing prices of JMAR's common stock for the five trading days during the period August 18, 2004 to August 24, 2004 (\$1.31). The additional consideration of \$625,000 is included in goodwill on the accompanying Consolidated Balance Sheet.

## e. Other Equity Transactions

During 2004 and 2003, \$1,254,500 and \$1,173,000, respectively, of the Working Capital Line (see Note 8) was converted into 1,048,913 and 1,275,000 shares, respectively, of common stock of the Company.

During the years ended December 31, 2004 and 2003, the Company received net proceeds of \$157,274 and \$289,577, respectively, from the exercise of warrants and options into 71,933 and 144,068 shares of common stock, respectively.

During 2005, 2004 and 2003, the Company issued 40,538, 11,604 and 11,026 shares of common stock, respectively, for services and other obligations. These issuances were valued based upon the fair market value of the Company's common stock at the date of issue.

## 12. Stock-Based Compensation Plans

The Company has five stock option plans, the 1991 Stock Option Plan (1991 Plan), the 1999 Stock Option Plan (1999 Plan), the Management Anti-Dilution Plan (Anti-Dilution Plan), and two incentive plans which provided for the issuance of options to Research Division employees (Research Division Plans). The Company is also a party to non-plan option agreements with several individuals.

The Company was authorized to grant options to its employees (including directors) and consultants for up to 1,480,000 shares under the 1991 Plan, 1,900,000 shares under the 1999 Plan, 806,637 shares under the Anti-Dilution Plan and 350,000 shares under the Research Division Plans (Plans). No further grants are allowed except under the 1999 Plan. As of December 31, 2005, the Company has granted 1,125,852 options under the 1991 Plan, 1,526,574 options under the 1999 Plan, 306,920 options under the Anti-Dilution Plan and 44,500 options under the Research Division Plans. In addition, 560,000 non-qualified options have been granted to three employees outside of the above plans. Except as noted in the next sentence, under all Plans the option exercise price was equal to or more than the market price of JMAR's common stock on date of grant in 2005, 2004 and 2003, and no compensation expense was recognized. Options for a total of 7,500 shares were granted to the Company's directors in payment of meeting fees in 2004, which had an exercise price of \$1.00 below the market price resulting in compensation expense of \$7,500. Options typically have a term of ten years and vest one-third per year after date of grant. As of December 31, 2005, options to purchase 373,426 shares are available for grant pursuant to the 1999 Plan.

A summary of the status of the total number of employee stock options pursuant to all of the above plans as of December 31, 2005, 2004 and 2003 and changes during the years then ended is presented in the tables below:

	2005		2004		2003	
	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price	Shares	Wtd Avg Ex Price
Outstanding at beg. of year	2,927,838	\$ 2.27	3,028,247	\$ 2.43	3,214,834	\$ 2.93
Granted	569,628	1.37	263,500	1.68	489,500	1.05
Exercised	(33,856)	0.60	(66,183)	2.25	—	—
Forfeited	(301,000)	1.91	(297,726)	3.34	(676,087)	3.50
Outstanding at end of year	<u>3,162,610</u>	2.11	<u>2,927,838</u>	2.27	<u>3,028,247</u>	2.43
Exercisable at end of year	<u>2,354,384</u>		<u>2,073,462</u>		<u>1,945,969</u>	
Weighted average fair value of options granted	1.13		1.69		0.92	

A summary of the options outstanding as of December 31, 2005, the range of exercise prices, the weighted-average exercise price, the weighted-average remaining contractual life, the amount of options currently exercisable and the weighted-average exercise price of options currently exercisable is as follows:

Range of Exercise Prices	Number Outstanding at 12/31/05	Options Outstanding		Options Exercisable	
		Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable at 12/31/05	Weighted-Average Exercise Price
\$0.87 to \$ 0.90	328,000	6.8 Years	\$ 0.90	219,668	\$ 0.90
1.02 to 1.44	1,334,828	7.3	1.33	743,536	1.30
1.66 to 2.44	555,463	4.2	2.06	465,061	2.10
2.63 to 3.00	553,545	2.7	2.94	541,445	2.94
3.13 to 9.50	390,774	3.8	4.66	384,674	4.68
\$0.87 to \$ 9.50	<u>3,162,610</u>			<u>2,354,384</u>	

### 13. Segment Information

JMAR conducts its operations in the following three business segments: Research Division/Vermont Operations, Microelectronics Division and Sensor Products Group. The table below shows the Research Division and Vermont Operations separately in order to provide additional disclosure the Company feels is relevant.

#### Research Division/Vermont Operations

Research Division — Located in San Diego, California, the Research Division carries out contract research and development involving JMAR's patented high brightness, short-pulse, diode pumped solid state lasers (BriteLight™) and laser-produced plasma (LPP) technology. A major portion of the Research Division's R&D has been funded by contracts from DARPA of the U.S. Department of Defense. The Research Division's historic focus on X-ray lithography light source R&D and equipment development was expanded in 2004 when it embarked on an effort to identify additional uses for its laser and LPP technologies. As a result of this business expansion investigation, the Research Division is developing several soft X-ray enabled products including a Compact X-ray Microscope and a family of instruments for nanotechnology applications. JMAR believes that this instrument family will provide the ability to carry out chemical analysis, chemical vapor deposition and erosions at resolutions down to 20 nanometers.

New products are developed at the Research Division based on contract and internally funded R&D and then transitioned to JMAR's Vermont Operations for product engineering and production.

Vermont Operations — Located in South Burlington, Vermont, the Vermont Operations carries out contract research and development involving nanolithography and serves as JMAR's manufacturing arm, carrying out the manufacturing engineering, production, integration and test of JMAR's new products. The Vermont Operations also applies its program management, engineering and manufacturing expertise to the contract development and production of new products using the customer's technology. As an example, the Vermont Operations is the design and manufacturing contractor for FemtoTrace, Inc. building its READ trace chemical sensors for real time detection of extremely small quantities of organics. The READ equipment has uses in environmental contamination detection and homeland security applications. The Vermont Operations also performs funded contract research and development for DARPA and NAVAIR. During 2005, the Research Division/Vermont Operations segment accounted for approximately 63% of the Company's revenues.

#### Microelectronics Division

This segment provides process integration and maintenance support for the Defense Microelectronics Activity's semiconductor fabrication facility in McClellan, California. During 2005, this segment accounted for approximately 37% of the Company's revenues.

#### Sensor Products Group

This segment's first product is the BioSentry™ sensor, a laser-based contamination warning system that provides continuous, automated monitoring of drinking water. This unique system is designed to monitor, detect and classify waterborne microorganisms in real time, helping to ensure water purity to protect the public health. Prospective applications include beverage bottling quality assurance, water utility operations, cruise ship water monitoring, and homeland security for building water supply and water distribution systems. During 2005, this segment accounted for less than 1% of the Company's revenues. First product shipments of the BioSentry™ occurred in the first quarter of 2006.

The accounting policies of the reportable segments are the same as those described in Note 2. The Company evaluates the performance of its operating segments primarily based on revenues and operating income. Corporate costs are generally allocated to the segments based on a three factor formula (revenues, payroll and certain assets).

Segment information for the years ended December 31, 2005, 2004 and 2003 (excluding discontinued operations) is as follows:

	Research Division	Vermont Operations	Microelectronics Division	Sensor Products Group	Corporate	Total
2005:						
Revenues	\$ 1,901,246	\$ 3,861,407	\$ 3,399,268	\$ 1,599	\$ —	\$ 9,163,520
Asset writedowns	(161,174)	—	(57,058)	—	—	(218,232)
Operating loss	(2,372,867)	(849,489)	(1,382,377)	(3,129,883)	(208,557)	(7,943,173)
Total assets	1,165,835	5,927,113	1,318,509	1,505,906	6,400,581	16,317,944
Goodwill	—	4,415,932	—	—	—	4,415,932
Capital expend	44,735	54,334	301,927	33,681	791,057	1,225,734
Depreciation & amortization	90,774	34,037	105,825	9,207	345,842	585,685
2004:						
Revenues	3,575,633	2,785,929	3,698,277	—	—	10,059,839
Asset writedowns	(191,575)	—	—	—	—	(191,575)
Operating loss	(1,306,568)	(1,757,025)	(600,759)	(1,089,453)	(180,126)	(4,933,931)
Total assets	3,239,951	5,210,423	1,895,020	17,636	7,063,068	17,426,098
Goodwill	—	4,415,932	—	—	—	4,415,932
Capital expend	15,920	18,978	160,845	17,636	194,659	408,038
Depreciation & amortization	163,314	189,112	50,337	1,748	609,060	1,013,571
2003:						
Revenues	6,206,123	6,561,372	4,529,013	—	—	17,296,508
Asset writedowns	(346,060)	—	—	—	—	(346,060)
Oper. income (loss)	152,738	(1,455,035)	151,242	—	(438,927)	(1,589,982)
Total assets	3,119,115	4,626,299	1,708,504	—	4,039,265	13,493,183
Goodwill	—	3,790,907	—	—	—	3,790,907
Capital expend	38,349	13,449	61,767	—	9,828	123,393
Depreciation & amortization	226,995	311,857	24,427	—	375,439	938,718

The asset writedowns for 2005 of \$218,232 include \$88,239 for patent costs related to patents abandoned and \$129,993 for license costs, related to the termination of a license and a write-down to realizable value of costs associated with another license for a product the Company has decided not to pursue further. The asset writedowns for 2004 of \$191,575 are for patent costs related to patents abandoned. The asset writedowns for 2003 of \$346,060 includes \$200,056 related to an asset held by the Research Division that will not be used by the Company in the future and \$146,004 of patent costs related to patents abandoned.

### Significant Customers

Sales to the United States Government aggregated \$4,100,616, \$5,215,961 and \$10,991,225 in 2005, 2004 and 2003, respectively. Accounts receivable from the United States Government at December 31, 2005 and 2004 was \$336,719 and \$2,071,341, respectively. In addition, sales to General Dynamics Advanced Information Systems (GDAIS) were \$3,399,268, \$3,688,807 and \$2,712,770 in 2005, 2004 and 2003, respectively. Accounts receivable from GDAIS at December 31, 2005 and 2004 was \$429,536 and \$847,584, respectively.

### Export Sales

For the year ended December 31, 2005, 97.5% of the Company's revenues were generated from the United States and 2.5% was generated from South Korea. For the years ended December 31, 2004 and 2003, all revenues were generated from the United States. All assets of the Company are located in the United States.

## 14. Quarterly Financial Information (Unaudited)

The following is a summary of unaudited quarterly results for the years ended December 31, 2005 and 2004:

Year Ended December 31, 2005	Revenues	Gross Profit	Loss Applicable to Common Stockholders	Loss per Share from Continuing Operations	Weighted Average Shares Outstanding
December 31	\$ 2,247,677	\$ 445,815	\$ (3,280,723)	\$ (0.09)	35,420,118
September 30	2,333,832	700,631	(2,580,263)	(0.07)	35,209,761
June 30	2,714,680	671,659	(2,189,982)	(0.06)	35,199,784
March 31	1,867,331	560,456	(2,073,067)	(0.06)	33,856,817
	<u>\$ 9,163,520</u>	<u>\$ 2,378,561</u>	<u>\$ (10,124,035)</u>	(0.29)	34,924,561

Year Ended December 31, 2004	Revenues	Gross Profit	Gain (Loss) from Discontinued Operations	Loss Applicable to Common Stockholders	Loss Per Share Continuing Operations	Discontinued Operations	Weighted Average Shares Outstanding
December 31	\$ 1,755,289	\$ 448,626	\$ (174,793)	\$ (2,504,241)	\$ (0.07)	\$ (0.01)	31,374,439
September 30	2,257,737	214,819	(52,549)	(1,929,816)	(0.06)	—	31,088,814
June 30	3,011,437	669,842	74,546	(1,322,001)	(0.04)	—	30,885,182
March 31	3,035,376	665,453	(62,097)	(2,123,958)	(0.07)	—	29,660,437
	<u>\$ 10,059,839</u>	<u>\$ 1,998,740</u>	<u>\$ (214,893)</u>	<u>\$ (7,880,016)</u>	(0.25)	(0.01)	30,758,689

The Company continued to incur losses from discontinued operations in 2004 primarily related to the lease of the Irvine facility.

## 15. Intangible Assets

The Company adopted SFAS No. 142 "Goodwill and Other Intangible Assets" (SFAS 142) effective January 1, 2002. In accordance with SFAS 142, the Company does not amortize goodwill. The Company's goodwill of \$4,415,932 at December 31, 2005 and 2004, is related to the acquisition of SAL, Inc. in August, 2001. In accordance with SFAS 142, the Company evaluates goodwill impairment at least annually, normally at year-end. As of December 31, 2005 and 2004, the Company had the following amounts related to other intangible assets:

	December 31, 2005			December 31, 2004		
	Gross Carrying Amount	Accumulated Amortization	Net Intangible Assets	Gross Carrying Amount	Accumulated Amortization	Net Intangible Assets
Patents	\$ 968,768	\$ 498,626	\$ 470,142	\$ 908,032	\$ 489,174	\$ 418,858
Unpatented Technology	450,000	450,000	—	450,000	450,000	—
Licenses	1,256,925	19,029	1,237,896	126,250	7,917	118,333
			<u>\$ 1,708,038</u>			<u>\$ 537,191</u>

During 2005, the Company capitalized \$148,974 related to patent costs and \$1,272,897 related to licenses. The Research Division/Vermont Operations accounted for \$119,081 of the patent costs and the Sensor Products Group accounted for \$29,893. The Sensor Products Group accounted for \$1,237,897 of the license costs (see below), and the Microelectronics Division accounted for \$35,000.

In January 2005, the Company and PointSource Technologies, LLC (PointSource) entered into a License Agreement granting JMAR an exclusive license covering all PointSource patents and other intellectual property related to the manufacture and sale of scattered-radiation based products used to detect or classify microorganisms in water and other media. As consideration for the License Agreement, the Company issued 520,000 shares of common stock and warrants to purchase 333,333 shares of common stock with an exercise price of \$1.38 per share, and a term of 5 years. The stock and warrants were valued at \$1,247,897. The stock issued to PointSource was valued based on the market price of JMAR's stock at the time the agreement was consummated and the warrants were valued based on the Black Scholes model using the following assumptions: risk-free interest rate of 3.63 percent based on estimated yields of 5-year U.S. Treasury Securities; expected dividend yield of 0 percent; expected life of 5 years; and expected volatility of 87 percent. The volatility is based on JMAR's historical stock prices for the past five years, consistent with the expected life of the warrants. The Company will evaluate the carrying value of this identifiable asset in accordance with the policy described in

Footnote 2.i. above. Amortization of the asset will begin upon first product shipment revenues and will be based on the units-of-production method over the life of the license.

Aggregate amortization expense of the intangible assets with determinable lives was \$28,481, \$163,008 and \$282,055 for the years ended December 31, 2005, 2004 and 2003, respectively. The unamortized balance of intangible assets is estimated to be amortized as follows:

For the Year Ending December 31	Estimated Amortization Expense
2006	\$ 392,473
2007	392,473
2008	392,473
2009	248,532
2010	47,014
Thereafter	235,073
	<u>\$ 1,708,038</u>

#### 16. Concentration of Customers Risk

The Company's top three customers (U.S. Government, GDAIS and FemtoTrace) accounted for approximately 91%, 95% and 88% for the years ended December 31, 2005, 2004 and 2003, respectively, and accounted for \$1,628,696 and \$3,035,046 of accounts receivable as of December 31, 2005 and 2004, respectively.

#### 17. Research and Development Costs

The Company's research and development (R&D) consists of two types: customer-funded R&D (U.S. government and other companies) and Company-funded R&D. Both types of R&D costs are expensed when incurred.

- Customer-funded R&D costs incurred, primarily related to the DARPA Contract and the NAVAIR Contract, are included in "Costs of Revenues" and totaled \$2,877,012, \$3,993,862 and \$9,606,745 for the fiscal years ended December 31, 2005, 2004 and 2003, respectively.
- Company-funded R&D costs associated with product development are shown in "Operating Expenses" and totaled \$3,395,683, \$1,722,329 and \$529,039 for the fiscal years ended December 31, 2005, 2004 and 2003, respectively.

Total R&D expenditures for 2005, 2004 and 2003 were \$6,272,695, \$5,716,191 and \$10,135,784, respectively. Total R&D expenditures as a percentage of revenues were 68.5%, 56.8% and 58.6% for the years ended December 31, 2005, 2004 and 2003, respectively.

#### 18. Subsequent Events

As described above in Note 11, the Company completed an offering of its common stock and warrants on December 28, 2005 and January 4, 2006. With regard to the January 4, 2006 closing, the Company entered into Securities Purchase Agreements and completed the sale of \$575,000 of the Company's common stock and warrants to two institutional investors (2006 Investors). Pursuant to the Securities Purchase Agreements, the Company issued a total of 479,167 shares of Common Stock at \$1.20 per share and warrants to purchase 335,417 shares of common stock to the 2006 Investors. The warrants have an exercise price of \$1.44 per share and a term of five and one-half years (see Note 11). In addition, on March 28, 2006, the Company issued a new Series I Convertible Preferred Stock to Laurus in exchange for \$6,393,980 of Series F-H Preferred Stock, leaving \$1,456,020 of Series G Convertible Preferred Stock outstanding. The redemption schedule of the remaining Series G Preferred Stock was also amended (see Note 11). On March 28, 2006, the Company also replaced its expired working capital line with a new Working Capital Line (see Note 8).

As a result of the 2006 Amendment, the Company will record an additional discount representing the difference between the fair value of the Preferred Stock immediately prior to and after the 2006 Amendment, which management is in the process of calculating based on the Black Scholes pricing model. This amount will be recorded during the first quarter of fiscal year 2006 as a reduction of preferred stock and amortized to preferred stock dividends over the earlier of the redemption payment period or the conversion dates (see Note 11).



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**Dennis E. Valentine, CPA**

Vice President, Finance and Chief Financial Officer

JVMAR Technologies, Inc.

**John P. Ricardi**

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General Manager, Research Division

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**Douglas Cheng**

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**Robert A. Selzer**

Senior Vice President, Technology

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**Ulf G. Westblom, PhD**

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JVMAR Technologies, Inc.

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**Barry Ressler**

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JVMAR Technologies, Inc.

**Annual Meeting of Shareholders**

Friday, June 23, 2006, 9:00 AM

JVMAR Technologies, Inc.

10905 Technology Place

San Diego, CA 92127

858.946.6800

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